UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics

CASS COUNTY RURAL HEALTH SERVICE
Cass County, Texas, 1942-44

By
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Social Science Analysts

Little Rock, Arkansas
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INTRODUCTION

Background

Students of health have pointed out for some time that decrease in mortality and morbidity rates has been more rapid in urban areas than in rural, and accumulating evidence shows that the hitherto relatively favorable health situation of rural people is changing to an unfavorable one. 1/ The implications suggested and borne out by reports of State committees on post-war planning are that rural areas do not receive their equal share of modern, scientific, medical care. This is due to economic as well as social factors.

Physicians have tended to settle in urban centers for professional opportunity as well as financial gain. 2/ Wealth of a county or State is a dominant factor in the maintenance of high physician-population ratios. 3/ Investigation reveals a strong tendency for physicians, particularly those graduating in recent years, to establish medical practice in urban places. Physician-population ratios and the fraction of young physicians were lowest in counties that had no hospitals. 4/

1/ See the Statistical Bulletin, Metropolitan Life Insurance Company, Vol. 24, No. 12 (Dec. 1943), p. 9-10; The Community Institute, Cir. No. 8 (Sept. 1944), prepared by A. R. Mangus, Dept. of Rural Economics and Rural Sociology, Ohio State Univ.; Medical Care and Health Services for Rural People, Farm Foundation, Chicago, 1944.

2/ Joseph W. Mountin, et al., Location and Movement of Physicians, 1923 and 1938, General Observations, Public Health Reports, Vol. 57, No. 37 (Sept. 11, 1942), Reprint No. 2403, p. 5.

3/ Joseph W. Mountin, et al., Effect of Local Factors Upon Location, Public Health Reports, Vol. 57, No. 51 (Dec. 18, 1942), Reprint No. 2434, p. 9.

4/ Joseph W. Mountin, et al., Age Distribution in Relation to County Characteristics, Public Health Reports, Vol. 58, No. 12 (Mar. 19, 1943), Reprint No. 2465, p. 8.

Early in 1942 the United States Department of Agriculture promoted experimental rural health programs in six counties, now commonly referred to as "the experimental counties." 5/ Plans for these programs were instituted by the Interbureau Committee on Post-War Programs of the Department of Agriculture.

The Committee's most immediate objective was the development of methods for easing the payment for medical care. In addition, it set out to explore ways and means of providing more adequate medical care to all income groups in the rural population, to secure the more efficient utilization of medical-care facilities, to make rural practice more attractive to young doctors by assuring them of adequate income, to encourage the provision of additional hospital and similar facilities, and otherwise to improve the over-all level of medical service through cooperative methods. 6/

This report is the second of a series that will cover the operations of each of the experimental programs. The reports are designed to provide information regarding the development of both post-war rural health programs and immediate health programs to meet the needs of rural people now faced with a shortage of medical personnel and facilities. 7/

Description of Cass County

Early Settlement.- Cass County was first settled permanently during the decade 1850-60, principally by people from other States in the South. Douglassville was founded by settlers from Alabama and Georgia about 1857. Linden was named after the town in Tennessee, and became the county seat in 1854. Laws Chapel was settled by Georgians in 1853, Lanier and Atlanta were named after the town and city in Georgia.

The cultural heritage of such people includes: (1) An intense individualism, (2) Protestantism - mainly Baptist and Methodist, (3) Masonic tradition, (4) cotton farming, (5) a firm belief in public education, (6) adherence to the Democratic political party, and (7) a reliance upon

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5/ The following Associations began operation between July 1 and November 1, 1942 in the following counties: Wheeler County Cass and/ County, Tex.; Newton County, Miss.; Hamilton County, Nebr.; Nevada County, Ark.; and Walton County, Ga. A seventh association, located in Taos County, N. Mex., has been analyzed and a report has been issued.

6/ Memorandum from R. A. Walker, Chairman, Subcommittee on Rural Facilities and Services, Apr. 19, 1943.

7/ The study on which this report is built was conducted under supervision of Douglas Ensminger, Bureau of Agricultural Economics.

organization to solve problems and satisfy needs. Mangus includes Cass County in his Western Old South Region. 8/

The population of Cass County in 1860 stood at 8,411, of which 3,475 were slaves, with a population of 4,991 ten years earlier. The Civil War set back development during the 1860's, but with the coming of railroads about 1872, settlement was soon rounded out, and the population of Cass County reached 16,724 in 1880.

Settlement first took place north and south of Linden, in an area lying between the two main streams in the county - Black Cypress Creek and Frazier Creek. Later the railroad cut through the eastern part of the county and several settlements sprang up along it. The automobile era, beginning after 1910, gave rise to rapid highway development. McCleod, the newest town in the county, is a result of the development of the Rodessa oil field about 1936.

Agriculture.- Farming is the principal enterprise in Cass County but there is a growing oil industry in parts of the county. The land is level but is broken in some sections by low hills and valleys. Almost two-thirds of the county is woodland or not in farms, and less than one-fourth the land was in crops in 1939. Cotton is the principal crop, but corn, potatoes, watermelons, and all kinds of fruits and vegetables are raised. Soil conservation practices such as terracing and contour plowing are applied extensively, and livestock are increasing. Rainful averages over 40 inches annually, and the frost-free season extends from March to November. Cotton is planted from the latter part of April until about June 10. Picking begins August 21 and ends December 11. Corn is usually planted from early in March until the middle of June and harvested from September to December.

Population.- The population of Cass County in 1940 was 33,496 (66.3 percent white and 33.7 percent Negro). 9/ More than two-thirds of the population is rural-farm. Population decreased 15.2 percent between 1940 and 1943, primarily as a result of war migration. 10/

8/ "The Western Old South Region is a cotton-producing region lying within the Mississippi alluvial plain bordering on the Delta Region in Arkansas, Missouri, and Louisiana, and within the Gulf Plain in eastern Texas, Arkansas, and Louisiana. The region extends from the southeastern Missouri boot heel just north of the Delta Region southward and westward along a central axis through Little Rock and Houston to the Gulf of Mexico. Its eastern boundary is the Mississippi Delta Region; its western boundary is the Ozark-Ouachita Region and the Black Prairie in Texas; and its southern boundary is the southern Louisiana sugar and rice area and the Texas coast.

"This is a fairly populous and thickly settled region with two million persons residing on farms and an almost equal number residing in urban areas

(cont'd)

Community Organization

The kin group is a strong factor in community life in Cass County. Newcomers to the county often comment on how important it is to consider the family aggregations in the county if any new program of action is desired. In many cases whole communities are predominantly drawn from one family group and this contributes to solidarity. Besides visiting each other families share turnip greens and hogs or other farm produce, and sit up with a sick neighbor. In many of the main concerns of life the families are likely to act together.

The sense of community is strong in that families identify themselves with "places" or "communities" in the county to which they have a strong feeling of belonging. During the war period it is exemplified by the desire of most small communities to have their bond quotas shown by community so that they may feel a responsibility for seeing that their quota is met and share in the satisfaction of accomplishment.

Neighborhood or "community" life generally centers in the church and school. 11/ Figure 1 (in front) shows the 60 neighborhoods of Cass County and the medical trade areas of which they are a part. The medical trade areas were delineated on the basis of the center to which 91 families interviewed in September and October, 1944 went to secure the services of a general practitioner between November 1, 1943, and October 31, 1944 (For description of the sample see appendix). These data are

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8/ (cont'd.) or in rural-nonfarm residences in 1930. About one-third of the urban population resided in two major centers, Little Rock and Houston.

"Culturally this region follows the same pattern as the Eastern Old South when measured in terms of regional averages. The most important differences among the regional medians of the two regions were found in the ratio of children to women and in the percentage of Negroes. Both of these ratios were somewhat lower in the Western Old South Region. Were the two regions not intercepted by the very divergent Mississippi [illegible] Delta they might well be combined into one cultural region."

Taken from A. R. Mangus, Rural Regions of the United States, Work Projects Administration, Washington 1940, p. 24.

9/ Sixteenth Census of the United States, 1940, Population II, Texas, Table 28, p. 202.

10/ Based on percentage change between Apr. 1, 1940, and Oct. 1943. Figures for Apr. 1, 1940, from Sixteenth Census of the United States, and figures for Oct. 1943 from Cass County OPA records of registrations for War Ration Book Four.

11/ A brief description of some of the elements of community life follows:

Housing consists generally of three types of construction, the simplest being the "shotgun" house consisting usually of two rooms in a line.

(cont'd)

shown graphically in figure 2. Lines connect the dots representing the sample families with the center at which they secured all general practitioner care from November 1, 1943, to October 31, 1944. Families that patronize two or more medical centers are shown by arrows pointing to the centers at which a part of their general practitioner care is secured. The majority of families patronize physicians at the community center nearest their residence, and only in those areas where distances to two or more centers are about the same, e.g. in the Bryan's Mill, Marietta, Cusseta, and Douglassville areas, is there a tendency to use two or more centers. Only one section of the county is more than 10 miles from a general practitioner and that is in an area roughly bounded by Douglassville on the east and Marietta on the west, and from Cusseta on the south to the Sulphur Fork bottoms on the north (fig. 2).

MEDICAL CARE BEFORE AND AFTER ORGANIZATION OF THE RURAL HEALTH SERVICE

Facilities and Services

An inventory of health facilities and personnel within Cass County gives a starting point for appraising medical facilities available to members of the Cass County Rural Health Service. It does not tell the whole story of quality and quantity of medical care available. Distance of facilities from the farm home, barriers against their use among certain segments of the population, and to some extent financial ability

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11/ (cont'd.) Then there is the ordinary 3- or 4-room square house with sloping roof and a corner turned over to porch space. The most prevalent and perhaps the oldest type of house is the "hall" type, that is, rooms constructed on each side of an open hallway running the length of the house. Sometimes the "hall" is screened or enclosed. The family well is very often at the far end of this hall. Much of family living is done in the hall, especially during the summer. During the winter one side of the house may be closed off because of difficulty in heating it. Most houses are unpainted, but painting gives status to the farm family and often only the front of the house receives paint.

Clothes are washed at a spring or at a second well under a shed in the yard. Most families have a large, black, iron washpot which is heated over an open fire in the yard. Using the old-fashioned washboard is still the most common way of getting out the dirt, but a few families now have washing machines. Soap is made from cracklings and meat skins, usually during the spring.

Farm families no longer rely upon the almanac as a source of information and guidance, but many farmers still plant beans on Good Friday.

More elements of Deep South culture are to be found around Douglassville and Union Chapel than in any of the other parts of Cass County.

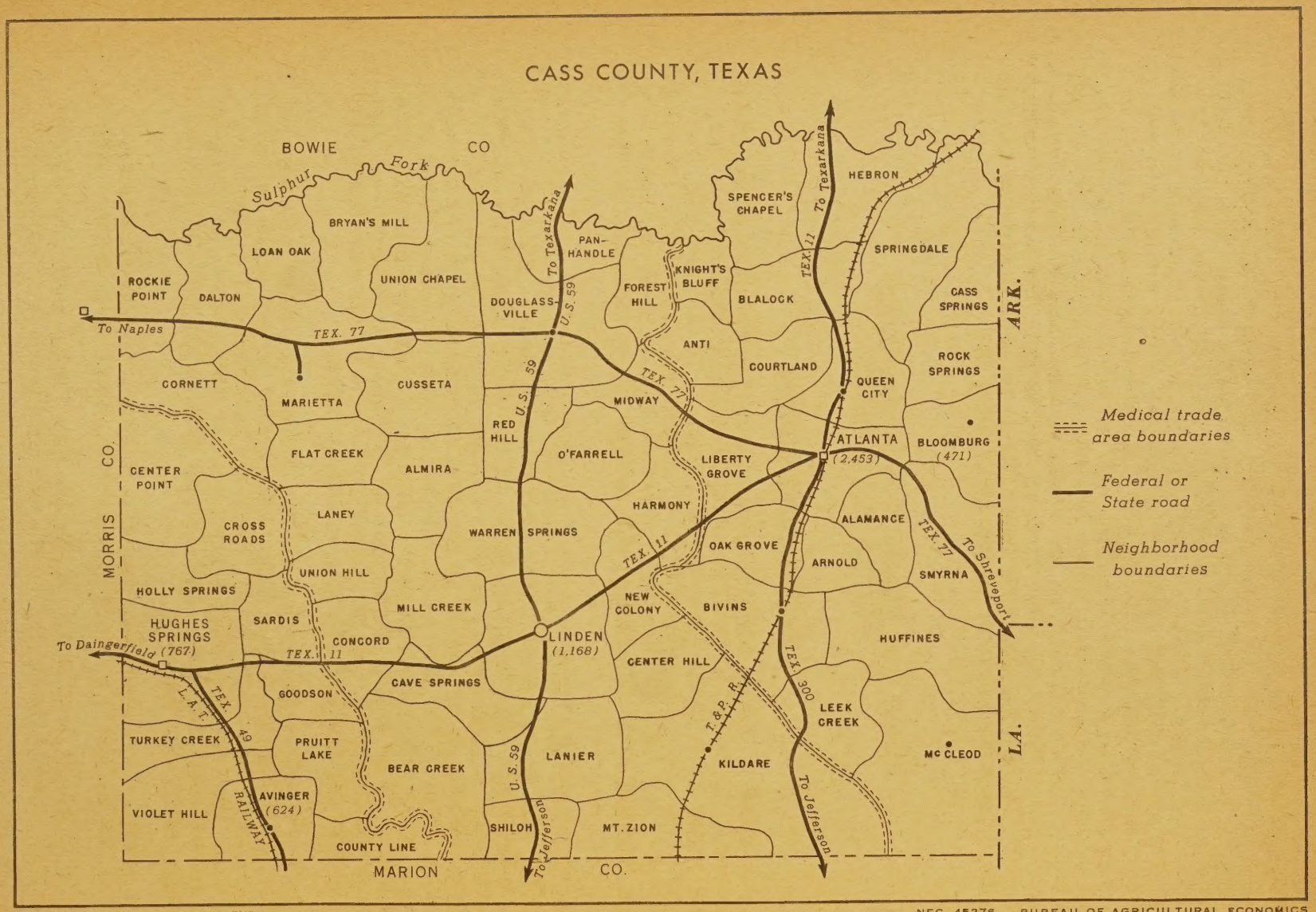

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FIGURE 1

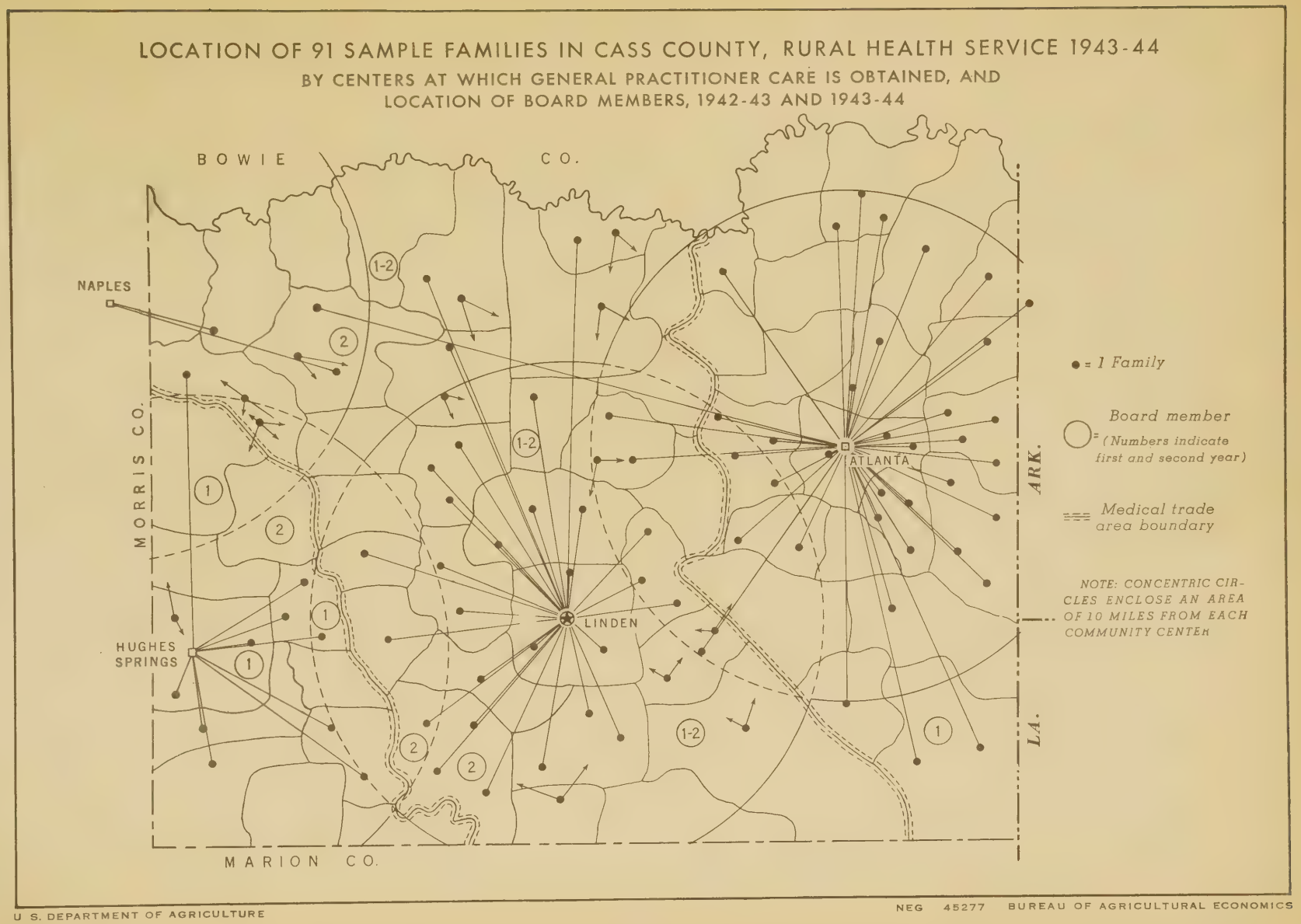
LOCATION OF 91 SAMPLE FAMILIES IN CASS COUNTY, RURAL HEALTH SERVICE 1943-44
BY CENTERS AT WHICH GENERAL PRACTITIONER CARE IS OBTAINED, AND
LOCATION OF BOARD MEMBERS, 1942-43 AND 1943-44
BOWIE CO.
NAPLES
MORRIS CO.
HUGHES SPRINGS
LINDEN
ATLANTA
MARION CO.
ARK.
LA.
1-2
1
2
● = 1 Family
Board member
(Numbers indicate first and second year)
Medical trade area boundary
NOTE: CONCENTRIC CIRCLES ENCLOSE AN AREA OF 10 MILES FROM EACH COMMUNITY CENTER
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FIGURE 2

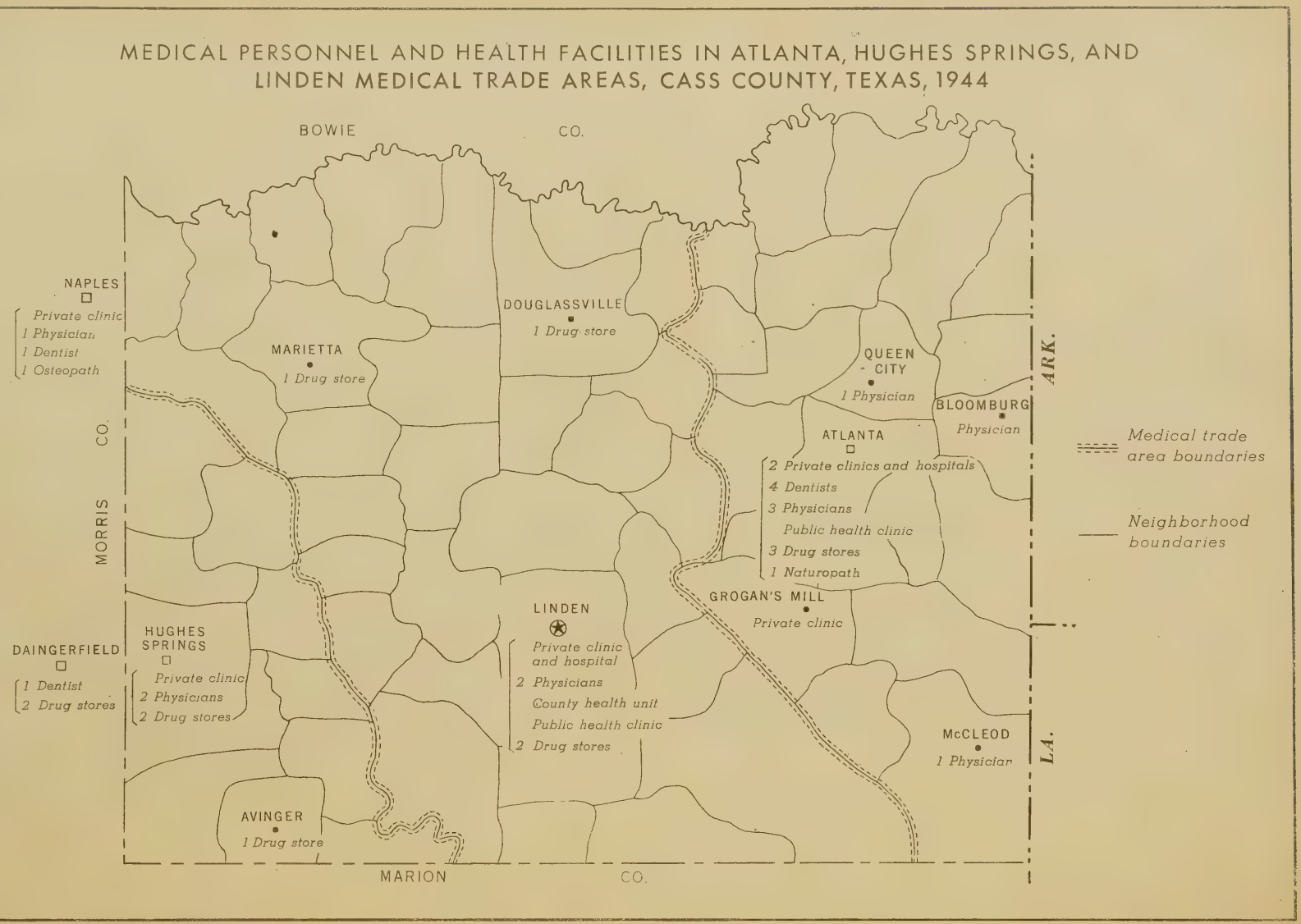

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FIGURE 3

must also be considered in evaluating the availability of medical care. (The description of this Health Service begins on p. 16.)

General Practitioners.- The general practitioner is the man upon whom the community relies to see "the individual as a whole" so far as medical needs are concerned. At present there are 10 physicians in Cass County: 3 in Atlanta, 2 in Hughes Springs, 2 in Linden, 1 in Bloomburg, 1 in Queen City, and 1 in McCleod (fig. 3). Of the 10 doctors, 7 are more than 60 years old. Before the war the county had 16 physicians; from this number, 2 entered the armed forces, 3 moved from the county, and 1 has retired.

Back in 1904, it is reported, the county had 38 doctors, with 1 or 2 in practically every little community. The change has been brought about primarily through better roads and increased use of automobiles. The trend has been from a pattern of care in which the doctor goes to his patient to one in which the patient, in most cases at least, calls at the clinic or at the doctor's office. The war period has accelerated this trend so that more than 90 percent of all general-practitioner calls are now in the office. A trend to fewer doctors has come about in part through more efficient use of the doctor's time.

The present ratio of physicians to population is 1 to 2,839, and is considered to be adequate by local medical doctors. It is to be noted, however, that the variation in ratio of persons to physicians ranges from 1,952 persons per physician in the Atlanta medical trade area to 6,212 persons per physician in the Linden medical trade area. The wartime minimum stipulated by the American Medical Association is at least 1 physician to every 1,500 persons and a ratio of about a physician to 1,000 people is probably necessary to assure rural people parity of physicians' services with city people.

Surgeon-Specialists.- Of the 10 physicians in Cass County, 8 do some surgery. ost of the surgical cases are handled by the Brooks Hospital and Ellington Memorial Hospital in Atlanta, and the Davis Hospital in Linden.

Dentists.- All of the four dentists in the county are located at Atlanta. One dentist is not a cooperator in the health program because of his advanced age. Some Cass County people, however, obtain dental service at Naples and Daingerfield in Morris County to the west.

Public Health Unit.- Cass County does not have a full-time public health director at present, but is served by a public health officer who has headquarters at Texarkana. A full-time registered nurse located at Linden supervises the county public health work on a full-time basis. The county also has a full-time sanitary engineer. For a short while during the last 2 years, the Cass County Rural Health Service paid the salaries and travel expense of public health nurses who were assigned and responsible to the county health unit. Before the war, two paid nurse's aides were available for public health work.

A public health program was instituted in the county by the county commissioners as early as 1932 and was carried on for about a year. It was closed because of lack of State participation. About 1938, an epidemic of typhoid fever broke out, resulting in 111 cases and 11 deaths. Principally through the efforts of the county judge Sam Henderson, according to reports, a health department was approved by the County Court, and opened September 1938 with county, State, and Federal participation. By 1941, personnel of the health unit consisted of director, sanitarian, four nurses, and clerk. In 1942, county funds were reduced by a drop in assessed valuation of the county, and the personnel of the health unit was reduced to four persons. At about this time, the Cass County Rural Health Service was organized which placed funds at the disposal of the health unit for the hiring of nursing personnel. Nurses with public health training were not available, but good use was made of the nursing service, especially in the various immunization programs.

Rural sanitation has been emphasized at all times by the health unit. Water supplies of schools have been corrected to meet State requirements, and standards of maintenance for all city water supplies are required throughout the county. Urban water supplies in the county were approved in 1940. Many of the wells in rural areas have questionable water. The health unit furnishes chlorine for purifying rural well water, and some educational progress is being made in directing rural sanitation. Under WPA auspices a project regarding pit privies was carried on in 1939 but has not been too successful in Cass County partly because of the type of soil and negligence by the owners in upkeep and care. Malaria control has been carried on by the health unit, primarily by oiling swamps and draining marshy places.

The milk supply in Cass County comes largely from one-cow dairies. There is no pasteurization plant in the county, but most of the small dairies have Grade "A" raw milk.

On January 1, 1939, a physician and nurse from the State Bureau of Maternal and Child Health Care were added and a health program was conducted among Negro school children for about 5 months that year. This has since been discontinued.

Vital statistics, such as records of births and deaths occurring in Cass County, are tabulated in the health unit office.

Venereal disease clinics were established at Atlanta and Linden and are at work. Approved preparations for treatment of syphilis and gonorrhea are distributed free of charge to private physicians as well as through public clinics.

Great effort has been put forth to immunize all school children in the county. Maternity nursing service was extensive until the war began, but with the shortage of nurses, prenatal and postnatal care has been sharply curtailed. The health unit, in cooperation with the Crippled Children's

Division of the State of Texas, has been instrumental in obtaining surgical care and hospitalization for crippled children under 21 years of age. Thus the health unit has acted as a connecting link between the orthopedic surgeon and the families. In the field of adult hygiene, the health unit has referred cases to the diagnostic clinic of the State Medical School at Galveston, for diagnosis and treatment.

Public Schools.- Health is a subject of study in elementary grades -- beginning in the fourth grade and continuing through the seventh. Classes are based on State-approved textbooks with the titles, Every Day Health, Safety, Safety in Every Day Living, Building Good Health. Textbooks used in the eighth and ninth grades include Personal Health and Hygiene and Our Environment. This gives each student 6 years in health courses -- this is required under State laws.

Schools in the county place much stress on vaccination. Rural schools are used as meeting places in rural communities for vaccination of babies for diptheria and smallpox. When a child enters the first grade a Schick test for diphtheria is given and is followed up if necessary. All school children are screened for major defects and an attempt is made to correct them.

Typhoid vaccinations are emphasized because of previous outbreaks of typhoid in Cass County. The typhoid preventive-care program never ceases. All vaccinations for typhoid are voluntary because there are no laws requiring them.

Hot lunches are served in about one-fourth the schools of the county, and the number increases year by year.

Hospitals.- Hospitals are located at Atlanta, Linden, and Hughes Springs. The Brooks Hospital in Atlanta has 14 beds and 4 bassinets; 4 of these beds are for Negro cases. Ellington Memorial Hospital in Atlanta has 12 beds, 1 of which is for Negro patients, and 4 bassinets. The Jenkins Clinic at Hughes Springs has 4 beds, for white patients only. Davis Clinic at Linden has 9 beds, 3 of which are for Negro patients. There are, therefore, 31 hospital beds for white patients in Cass County, and 8 for Negro patients. The ratio of hospital beds to population is 1 to 728 persons, compared with the recommended ratio of 1 to 250 persons.12/

Ellington Memorial Hospital was erected and equipped in 1936 by local doctors at a cost of more than $25,000. It is registered by the American Medical Association. The hospital has a completely equipped operating room, obstetrical room, laboratory, X-ray equipment, an oxygen tent, a basal metabolism rate machine, a violet ray machine, and a diathermy machine. The Jenkins Clinic in Hughes Springs is housed in a new building, and has an operating-delivery room, sterilizing room, laboratory, examining room, work office, and two waiting rooms. Brooks Hospital is

12/ Standard of adequacy set up by the American Hospital Association.

housed in a large residence. It is planned that a new building will be erected as soon as priorities can be secured. The Davis Clinic is housed in a downtown building, and has only limited facilities for surgery. None of the hospitals in Cass County are approved by the American College of Surgeons.

Besides the hospitals within the county, people of Cass County use hospitals located at Texarkana, Shreveport, Marshall, and Dallas.

Outpatient Clinics.- Private outpatient clinics are located at Atlanta, Linden, and Hughes Springs, in conjunction with the hospitals. The medical staff and facilities of the various hospitals are available to the clinic patients and laboratory service is available for the outpatient cases.

Druggists.- Cass County has 9 drug stores, 4 located in Atlanta, 2 at Linden, 2 at Hughes Springs, and 1 at Avinger. In addition, the doctors at Bloomburg and Queen City compound and dispense their own drugs. Seven of the drug stores have registered pharmacists while two have graduate pharmacists.

Other Practitioners of Medicine.- Before this war, there were three osteopaths in Cass County, located at Atlanta; there are none in the county at present. There is one naturopath in the Atlanta community. There are several Negro "doctors" but little is known about them. The county has 66 midwives whom the health department has attempted to keep under supervision. The large majority of them are old Negro women, and they are dying out rather rapidly. Many of the old medical practices, such as the use of herbs or tying an amulet of asafetida around the neck of the ill person, are common, particularly among Negro families.

Pattern of Medical Care

Medical practice 40 years ago in Cass County was built around a neighborhood doctor. It was customary for the doctor to make home calls, and much of his time was spent in this travel. A trend to fewer doctors and more efficient use of the professional doctor's time and effort has been going on for some time. The tendency has been for doctors to settle at the few urban centers, and within the last 10 years clinics have become general. At present, there are only 3 doctors in the open country, and their practice is very limited. They are resorted to chiefly in cases of emergency.

The president of the Cass-Marion County Medical Society says that in the early part of the century almost everybody "chilled" but now there is very little malaria. He says there has been a rapid decline in infectious diseases, due to preventive measures.

It has been customary to have a medical doctor in attendance during sickness of members of the family. Ninety-five percent of the families interviewed in 1944 reported that they sometimes called a medical doctor during sickness before they joined the Cass County Rural Health Service, but it is not clear whether this was done during every sickness or only during certain serious illnesses. Only 5 percent reported no attendant in sickness. None of the interviewed families reported deaths for lack of medical care before they joined the Cass County Rural Health Service.

Attention at Childbirth.- One of the best indexes of standards of medical care is the attention given to the mother in childbirth. In 1938, when the public health unit was organized, less than two-thirds (65.3 percent) of the mothers were attended by a medical doctor at childbirth. Great differences existed between the white and Negro population: 97 percent of the white mothers were attended by medical doctors, compared with 6 percent of the Negroes. Since 1938, the trend, particularly among the Negro families, has been toward the use of a medical doctor at childbirth. The last figures available, those for 1943, show that 73 percent of all births were attended by a physician, 99 percent of the white and 32 percent of the Negro births (table 1).

Table 1.- Number and percentage of births in Cass County, Texas, by attendant, by race, and by year - 1938-43

Item	Medical doctor		Midwife		Total	
	Number	Percent	Number	Percent	Number	Percent
1938						
All births	126	65.3	67	34.7	193	100.0
White	122	96.8	4	3.2	126	100.0
Negro	4	6.0	63	94.0	67	100.0
1939						
All births	429	70.9	176	29.1	605	100.0
White	407	95.8	18	4.2	425	100.0
Negro	22	12.2	158	87.8	180	100.0
1940						
All births	546	66.7	272	33.3	818	100.0
White	495	95.6	23	4.4	518	100.0
Negro	51	17.0	249	83.0	300	100.0
1941						
All births	554	64.3	308	35.7	862	100.0
White	495	96.3	19	3.7	515	100.0
Negro	58	16.7	289	83.3	347	100.0
1942						
All births	561	73.4	203	26.6	764	100.0
White	483	98.0	10	2.0	493	100.0
Negro	78	28.8	193	71.2	271	100.0
1943						
All births	533	72.6	201	27.4	734	100.0
White	442	99.1	4	0.9	446	100.0
Negro	91	31.6	197	68.4	288	100.0
1938-1943						
All births	2,749	69.1	1,227	30.9	3,976	100.0
White	2,445	96.9	78	3.1	2,523	100.0
Negro	304	20.9	1,149	79.1	1,453	100.0

Source: Cass County Public Health Unit.

Table 2.- Number and percentage of births in Cass County, Texas, by place of delivery, by race, and by year - 1938-43

Item	Home		Hospital		Total	
	Number	Percent	Number	Percent	Number	Percent
1938						
All births	184	95.3	9	4.7	193	100.0
White	117	92.8	9	7.2	126	100.0
Negro	67	100.0	0	0.0	67	100.0
1939						
All births	506	83.6	99	16.4	605	100.0
White	326	76.7	99	23.3	425	100.0
Negro	180	100.0	0	.0	180	100.0
1940						
All births	688	84.1	130	15.9	818	100.0
White	390	75.3	128	24.7	518	100.0
Negro	298	99.3	2	.7	300	100.0
1941						
All births	721	83.6	141	16.4	862	100.0
White	376	73.0	139	27.0	515	100.0
Negro	345	99.4	2	.6	347	100.0
1942						
All births	556	72.8	208	27.2	764	100.0
White	293	59.4	200	40.6	493	100.0
Negro	263	97.0	8	3.0	271	100.0
1943						
All births	452	61.6	282	38.4	734	100.0
White	192	43.0	254	57.0	446	100.0
Negro	260	90.3	28	9.7	288	100.0
1938-1943						
All births	3,107	78.1	869	21.9	3,976	100.0
White	1,694	67.1	829	32.9	2,523	100.0
Negro	1,413	97.2	40	2.8	1,453	100.0

Source: Cass County Public Health Unit.

The percentage of births in a hospital has risen from 5 percent in 1938 to 38 percent in 1943 (table 2). Here again variation in the pattern of medical care by race is observed. Whereas 7 percent of the white births in 1938 were in a hospital, no Negro babies were born in a hospital. By 1943, however, percentages of white and Negro births in hospitals were 57 and 10 respectively.

Besides the racial differentials in pattern of medical care at childbirth, the geographical factor is significant. According to the 1944 survey including 91 families who were members of the Health Service, the percentage of births attended by a medical doctor before the mothers joined the Health Service varied from 57 in the Linden medical trade area to 91 in the Atlanta medical trade area. Deliveries at a hospital varied from none in the Hughes Springs area to 7 percent in the Atlanta area (table 3).

Table 3.- Percentage of children born to mothers in the Rural Health Service of Cass County, Tex. before they joined the Health Service, by medical trade area, and percentage of all Cass County children botn in 1942, by attendant, and by place of delivery

Item	Births to Health Service mothers before they joined association				All Cass County births 1942
	Atlanta	Hughes Springs	Linden	County	
	Percent	Percent	Percent	Percent	Percent
Attendant					
Midwife	9.9	20.0	42.6	27.0	26.6
Doctor	91.1	80.0	57.4	73.0	73.4
Total	100.0	100.0	100.0	100.0	100.0
Place of delivery					
Home	93.5	100.0	97.1	96.2	68.7
Hospital	6.5	0.0	2.9	3.8	31.3
Total	100.0	100.0	100.0	100.0	100.0

Source: Data for 91 sample families secured by individual interviews and based on all children born to these families before they joined the Health Service. Cass County data for 1942 taken from annual report of the Health Department.

Extension Service and FSA.- The educational programs of Agricultural Extension Service and Farm Security Administration have a direct bearing on the health of farm families, for the interrelations of sickness and poverty are well known. Therefore all improvement activities such as canning programs, nutrition education, better housing, and better sanitation, contribute to improvement in the level of health among rural families. Before the organization of the incorporated prepayment medical plan of the Cass County Rural Health Service, the Farm Security Administration had an unincorporated prepayment plan among its clients. At a cost of about $30 per family, limited hospitalization, physician care, and dental care were made available to about 203 low-income families. This plan operated from August 1941 through August 1942.

Other Health Agencies.- The American Red Cross has conducted several first-aid classes in the county during the war period. The local Tuberculosis Association is active and is aware of the rapid increase of tuberculosis among the people of Cass County. Indigent cases requiring medical attention are taken care of through the Texas Welfare Agency which has an office in Linden. A lumber company located at Grogan's Mill sponsors a prepayment medical program for its employees but not for members of their families. One of the physicians from Atlanta in Cass County is hired to conduct a clinic once a week at the mill.

DESCRIPTION OF THE CASS COUNTY RURAL HEALTH SERVICE

Development of Program

The Cass County Rural Health Service stemmed from activities of the Cass County Agricultural Planning Committee. 13/ In March 1941 the Planning Committee appointed a subcommittee to arrange a meeting at which the entire committee would discuss health problems and conditions in the county. 14/ Such a meeting was held in the following month, April 1941, 15/ at which brief statements were made by representatives of the public health unit, public schools, Department of Public Welfare, Selective Service, Agricultural Extension, Farm Security Administration, and the Agricultural Adjustment Administration. At the conclusion of the meeting the planning committee resolved to foster and sponsor "any health program available or that might become available" in the interest of rural families. 16/

In the meantime officials of the United States Department of Agriculture had decided to make grants-in-aid to a limited number of counties for experimental rural health programs. Through efforts of the Texas Agricultural Planning Committee, Cass County was selected for one of these programs. The Regional Medical Officer of the Farm Security Administration and representatives of the Texas Agricultural Extension Service worked closely together in laying groundwork for the medical care plan.

Almost a year after the initial health meeting of the Cass County Agricultural Planning Committee, plans for a proposed health association began to take definite shape. During intervening months the Cass County Medical Society had approved the general idea and in March 1942 the chairman of the Agricultural Planning Committee appointed a subcommittee of seven members - five men and two women - to work out details for the organization of the health association. 17/

Men and women agricultural workers along with many other county officials, spearheaded by county agent Marvin Carter, were active in launching the medical care program. O. E. McGilvray, 6-1/2 years with the Cass County Agricultural Conservation Program Committee, was selected as organizer to head the membership campaign. Following incorporation of the Cass County Rural Health Service June 2, 1942, Mr. McGilvray became the first manager, July 1, 1942.

13/ Chronology of the Development of the Cass County Rural Health Service contained in Appendix.
14/ Minutes of Cass County Agricultural Planning Committee, March 23, 1941.
15/ Minutes of Cass County Agricultural Planning Committee, April 19, 1941.
16/ Ibid.
17/ Minutes of Cass County Agricultural Planning Committee, March 10, 1942.

The membership campaign was intensive and thorough. Neighborhood and community leaders were requested by the County Agricultural Victory Council (successor to the County Agricultural Planning Committee) to join with Council members in telling their neighbors about the health program, in assisting with income inventories, and in collecting dues. More than 50 community meetings were held in behalf of the Health Service. In addition, letters were mailed out and newspaper articles were written. Within a relatively short time most people in Cass County had heard about the new plan for medical care. Farmers not only heard about it but liked it well enough to begin paying their membership fees. By August 1942 a sufficient number of association members had been signed to assure the committee on organization that the health plan would become a reality. Final working arrangements, therefore, were made with professional groups of physicians, dentists, and druggists who had agreed to participate in the program. On September 1, 1942, the Cass County Rural Health Service began to provide medical and dental care to 2,379 rural families.

Services Offered

Members of the Health Service have free choice of physician, dentist, and hospital. Services provided to members of the association and their housholds include general practitioner care, surgery and specialist care, hospitalization, and dentistry. Drugs were included in the program during the first fiscal year, 1942-43. At first, through an arrangement with the drug stores, the association supplied all drugs upon prescription from participating physicians but after 5 months, (considered in Analysis of Services and Costs p. 37), the association reduced the allowance for drugs to one-half the cost and members were required to pay one-half the cost thereafter. Beginning with the second fiscal year, the association paid no part of drug bills of members.

Physicians.- General practitioner care includes physical examination, obstetrical care - including prenatal, delivery, and postnatal - treatment of acute and chronic illnesses, fractures; X-ray examination and laboratory services; vaccinations and immunizations (except as provided by the local public health unit); minor surgery such as tonsillectomies and abscesses. Although the program provides for both office calls and home calls, patients are urged to visit their doctor in his office if possible.

Surgery and specialist care includes all major surgery, emergency and corrective, and any unusual cases with which the general practitioner cannot cope.

All 10 physicians in Cass County who are members of the County Medical Society, and one physician in adjoining Morris County, are participants in the Health Service. 18/ A delegation of osteopathic physicians

18/ Personnel and facilities for medical care in Cass County are described in preceding parts of this report.

appeared unexpectedly before the board of directors of the Health Service on August 31, 1942, and requested that they be permitted to take part in the program 19/ but their request was denied on the grounds that the Health Service dealt only with regularly constituted members of the Cass County Medical Society.

Hospitals.- Any association member was entitled to a maximum of 21 days of hospitalization during the 1942-43 fiscal year, but the number of days was reduced to 14 during the next year, except in the case of obstetrics. Expenses for confinement cases of members were paid for 4 days during the first year, but for only 3 days during the second year. This period could be extended in case of complications.

Hospitalization provisions include semi-private room, general nursing, dietetics, and other services usually made available to patients by hospitals.

All hospital facilities in Cass County 20/ are open to Health Service members. Upon referral by his family physician, a member patient may go to any hospital outside Cass County. Payments to hospitals outside the county, however, are made by the association at the same rate as payments to hospitals within Cass County. When a patient goes to an out-of-county hospital, therefore, he is personally responsible for the difference between the amount charged by that hospital and amount allowed by the association.

Dentists.- Dental services include extractions, amalgam alloy and synthetic porcelain fillings, X-rays when necessary for diagnosis, and treatment of teeth and gums (to the extent of 15 treatments per year).

Three of the four Cass County dentists, all of whom are are located in Atlanta, and two dentists in adjoining Morris County (one in Daingerfield and one in Naples) do work for association members.

Druggists.- During the first fiscal year, 1942-43, the Health Service provided members with all drugs for the first 5 months and provided one-half of them thereafter. Druggists who had entered into an agreement with the association honored all written prescriptions issued to members by participating physicians. Such an agreement was entered into, not necessarily in writing, by managers of all drug stores in the county. These included four drug stores in Atlanta, two in Linden, two in Hughes Springs, and one in Avinger. In addition, two physicians in outlying communities dispensed drugs.

Preventive Care.- Preventive care has received only slight attention by the Health Service. There has been practically no educational effort,

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19/ Minutes of board meeting, August 31, 1942.
20/ Described earlier.

for example, designed to inform members of services offered by the county public health unit. As a step toward doing something in preventive medical care, the association paid for the services of a nurse during 8 months of 1943 and 6 months of 1944; the nurse was assigned to and was responsible to the county health unit.

Membership Fees

Family membership fee for the 1942-43 fiscal year was 6 percent of net cash family income for the 1941 crop year, except that the maximum fee was $50 and the minimum was $6. The average family fee was $9.50, 19 percent of the $50.05 that was the per-family cost of operating the program during the first year. Most funds for operating expenses, therefore, came not from the $22,600 collected in family membership fees, but from the Federal Government grant of $96,350. 21/

For the second year of the program, the family fee was 6 percent of net cash family income for the 1942 crop year, with the exception that no family paid less than $12 and none more than $54. The Federal Government grant for 1943-44 was reduced substantially and it became necessary for the membership to bear proportionately more operating expenses than they did the previous year, even though drug service was eliminated from the program. Family membership fees averaged $19.59 the second year, or 44.3 percent of the total cost ($44.21) per family of operating the program. Total receipts included $34,660 from family membership fees, $42,500 from the Federal Government, and $1,052 carried over from the previous year.

Allocation of Funds and Provision for Payment.- Funds of the association were allocated to the different types of service, by family (table 4). The cost of services was estimated at $50 during the first year and $41 during the second year not including the amount carried over from the first year and later used to pay for nursing service and administrative costs. Federal grant funds were used to make up the differences between these amounts and what the family paid in membership fees.

The separate funds budgeted according to estimates per family were then divided into 12 equal portions, one for each month of the fiscal year, and were thus made available to pay for professional services given during each month. If such funds were more than adequate to cover the monthly bills submitted, the surplus was carried over to the end of the year. If the total of bills in any professional service fund during any one month exceeded the total funds allocated, only a percentage of the total charges were paid. If at the end of the fiscal year any surplus remained in one of the service funds, the board provided that it be prorated back to the professional service unpaid in prior months. If, after

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21/ Additional receipts amounting to $124.10 were attributed to miscellaneous sources.

back bills are paid for a type of service, there still remained a surplus in the fund it has been customary to carry this over into the next year's operation, as was done with the surplus nursing funds at the end of the first year.

Table 4.- Amount budgeted for each family in Cass County, Texas, Rural Health Service, by specified service, by fiscal year - 1942-43, 1943-44

Type of service	1942-43	1943-44
	Dollars	Dollars
Administration	3	3
General practitioner	16	16
Surgeon-Specialist	6	7
Hospital	10	9
Dentist	7	6
Drugs	6	0
Nursing	2	- 1/
Total	50	41

1/ During the second year only $37,704.95 of grant fund was used to match membership fees paid in; the surplus of $4,795.05 thus accruing was used to pay for public health nursing ($2,000) and additional administrative expense ($2,795.05).
Source: Cass County Rural Health Service records.

Membership Coverage

Eligibility.- Qualifications for membership in the Health Service are described in the by-laws as follows:

> "This Association shall admit as members only persons who are engaged in agricultural pursuits and who reside in the territory (Cass County) to be serviced by this Association and who are approved for membership by the Board of Directors of the Association." 22/

Members and their families are entitled to all benefits provided by the association. The word "family" is interpreted to include all persons residing with the member and all persons substantially dependent upon him for support. 23/ It is possible, therefore, for a fully

22/ By-laws, Article IV, Sec. 1.
23/ By-laws, Article VIII, Sec. 1.

self-supporting young man or young woman living in the home of his or her father to obtain medical care under the father's contract. On the other hand, these prerequisites bar from membership many rural families such as teachers, ministers, storekeepers, and sawmill workers. Furthermore, some of the medical trade areas and communities of Cass County extend naturally into adjacent counties. Thus many families who live in medical trade areas of Cass County are not eligible for membership in the association. In the sample of 91 member families interviewed in September-October 1944 in the study on which this report is based, it was found that 5 family heads, mostly old people, were not farming at the time of the interview. Only one of the sample families was living outside the county in 1944. No widespread violations of the legal requirements for membership, therefore, are indicated by the sample survey.

Families and Persons Covered.- As the Health Service membership included only 5 out of 10 farm people among those who were eligible in 1942-43, and 4 out of 10 of those eligible in 1943-44, the medical care program, while designed for all farmers in the county, by no means reached all of them (table 5). A still smaller proportion of the total population was reached since nonfarm families were not eligible for membership.

Table 5.- Number of families and number of persons in Cass County Rural Health Service, total population and farm population of county, percentage of total population and percentage of farm population in Health Service, by 1942-43 and 1943-44 fiscal years.

Fiscal year	Health Service membership		Cass County population		Percent of population members Health Service	
	Families	Persons	Total	Farm	Total	Farm
1942-43	2,379	10,337 1/	29,590 2/	20,062	34.9	51.5
1943-44	1,769	7,860 3/	28,393 4/	19,250	27.7	40.8

1/ Bureau of the Census, Estimates of the Civilian Population of the United States, by Counties; March 1, 1943, Table 3, p. 19.
2/ Percentage change in farm population between Apr. 1, 1940, and Mar. 1, 1943, was assumed to be the same as estimated decrease of 11.7 percent in total population.
3/ Based on registrations for War Ration Book Four, Oct. 1943.
4/ Percentage change in farm population between Apr. 1, 1940, and Oct. 1943 was assumed to be the same as estimated decrease of 15.2 percent in total population.

Family membership declined from 2,379 in 1942-43 to 1,769 in 1943-44, or 25.7 percent. The number of persons covered by membership decreased only 24.0 percent, reflecting a slightly larger average-size family in the second year. The average (mean) size of family included in the association during 1943-44 was 4.4, the modal size was 3. No controls

were possible over the wide variation in membership between the two years of operation. In fact, one of the factors contributing most to the fluctuations in membership was the 56-percent reduction in grant money from the Federal Government the second year, and the consequent increase in family fees. Another immediate factor in the decline in membership may have been the attitude of a family that has not experienced illness and hence the need for medical services during the previous year. A recent study of FSA plans in Ohio shows that a large proportion of persons who failed to rejoin group health plans did so because of not having utilized the service during their membership period. 24/ It will be recalled also that the association supplied no drugs the second year. No doubt the large exodus of people from the county late in 1942 and the generally unstable wartime conditions were likewise contributing causes to the decrease in membership. 25/ The inevitable effect of such a decline was the selection of a poor group of health risks from the insurance standpoint.

In view of inadequate provisions for designations of membership characteristics on all association records, characteristics as discussed in the paragraphs that follow pertain to 1943-44 members only.

Race.- Race is an important population factor in Cass County, since one-third are Negroes (table 6). Although the Health Service includes only about 5 out of 10 eligible whites compared with about 3 out of 10 eligible Negroes, the survey revealed no indication of conscious racial discrimination with respect to membership.

It is well known, of course, that incomes of Negroes tend to concentrate in the lower brackets. Many Negroes, therefore, doubtless have considerable difficulty in raising enough money to pay even minimum membership fees. For financial and other reasons, they generally have not been accustomed to medical care which included physicians, dentists, and hospitals. Considerable educational effort may be necessary to convince some Negroes that it would be to their advantage to substitute modern medical care for home remedies.

24/ Robert L. McNamara and A. R. Mangus, Prepayment Medical-Care Plans for Low-Income Farmers in Ohio, Bulletin 653, Ohio Agricultural Experiment Station, Wooster, Ohio, October, 1944, p. 22.

25/ Also indicative of the trends in migration are the data on number of students, 6 to 17 years old inclusive. Between the 1942 and 1943 school years the number of students declined from 9,099 to 8,549, or 6.0 percent. The county superintendent of schools reported that persons left Cass County between March and September 1942, like a "covey of birds flushing."

Furthermore, the year 1943-44 was a very poor crop year because of drought. Local agricultural leaders estimated that half the farms were idle in 1944. Such conditions are not conducive to stability in community organization or activity.

Table 6.- Number and percentage of families and persons in Cass County Rural Health Service, percentage of county total and percentage of county farm population, percentage of total and percentage of farm population included in Health Service membership, by race - 1943-44.

Race	Membership 1/				Population 2/		Pct. pop. 2/	
	Families		Persons		Percent	Percent	members Hlth Srv.	
	Number	Percent	Number	Percent	of total	of farm	Total	Farm
White	1,361	77.0	5,821	74.1	66.4	62.4	30.9	48.5
Negro	408	23.0	2,039	25.9	33.6	37.6	21.4	28.2
Total	1,769	100.0	7,860	100.0	100.0	100.0	27.7	40.8

1/ Number of families by race obtained from association records, whereas number of persons was estimated on basis of average size of family by race in the sample.
2/ Based on registrations for War Ration Book Four, October 1943, assuming a uniform population decrease of 15.2 percent between Apr. 1, 1940, and Oct. 1943.

Tenure.- Compared with the general farm population in Cass County, farm owners in the Health Service during 1943-44 were somewhat overrepresented and tenants were slightly underrepresented (table 7). Evidently, few if any farm laborers are included in the program, for none were drawn in the 5-percent sample. As Cass County is in a general-farming area, characterized by small farms, the year-round farm laborers do not comprise a substantial part of the farm population and right now, with war-plant jobs at good wages available in nearby Texarkana, it is possible that very few farm laborers could be found in the county.

Table 7.- Percentage of families in Cass County Rural Health Service 1943-44, and percentage of farm operators in Cass County, Texas by tenure, 1940

Tenure	Families in Health Service 1/	Farm operators in Cass County 2/
	Percent	Percent
Owners	59.0	51.8
Tenants	41.0	48.2
Total 3/	100.0	100.0

1/ Estimated on basis of 5 percent sample survey, Sept.-Oct. 1944.
2/ Sixteenth Census of the United States, 1940, Agriculture, Series I, Texas, Table II, p. 59.
3/ Excludes 8.8 percent of families who live on but do not operate farms. Dose not include farm laborers since the 5 percent selected sample included none.

These figures suggest that the health service is reaching a rather broad group of families but apparently does not cover the low-income group in the same degree that it does the upper. But the feeling on the part of some people in the county that the health service is a "relief" or "poor man's" program is justified only if it is acknowledged that the majority of farm families in the association are to be described in such terms. For instance, it is known that the average (mean) value of farm products sold, traded, or used by farm households in Cass County was only $495 in 1939. No comparable figure is available for families in the association but the average (median) net cash income in 1942 of the sample families in the health association during 1943-44 was $185. The comparable figure for the first year was $125. Thus the change in economic conditions during the period of operation is reflected. This favorable trend in farm income suffered a setback in 1943 when crops were extremely short because of drought.

Size of farm.- The average (mean) size of farm for farm operators included in the association membership during 1943-44 was 94.7 acres, 26/ compared with an average of 91.9 acres for all farm operators in Cass County in 1940. 27/ Outward migration from Cass County since 1940, and some subsequent combination of farm units, may have contributed slightly to an increase in the size of the average farm. Considering the possible increase in size of farm units since 1940, together with possible sampling error, it is fairly certain that the average association member farm is fairly comparable in size to the average farm in Cass County.

Medical Trade Areas.- Families in Cass County naturally divide into three medical trade areas, corresponding roughly to the community areas of Atlanta, Hughes Springs, and Linden (fig. 1, p. 6). Association membership during 1943-44, however, was not divided among the three medical trade areas in the same proportions as was the farm population in the county (table 8).

Why should the proportion of members compared with the proportion of the population eligible for membership vary by medical trade areas? There are several answers.

Experience and availability.- Atlanta has more physicians and hospital facilities than other community centers within the county and all dentists in the county are located there. The community is relatively close to Texarkana, so the people there are likely to be somewhat more urban-minded than are those in other parts of the county. It is altogether likely therefore, that citizens of the Atlanta medical trade area were receiving more adequate medical care than other citizens in the county before the health program was organized. In view of their former customs in regard to medical care, coupled with relatively greater available

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26/ Based on reports of farm operators included in 5 percent sample.
27/ Sixteenth Census of the United States, 1940, Series I, Texas, Table I, p. 13.

services and facilities, it is easy to understand why farm families in the Atlanta area would join the Health Service in greater relative numbers than farmers in other parts of the county.

Table 8.- Number and percentage of persons in Cass County Rural Health Service 1943-44, percentage of total and percentage of farm population in county, percentage of total and percentage of farm population covered by Health Service, by medical trade areas.

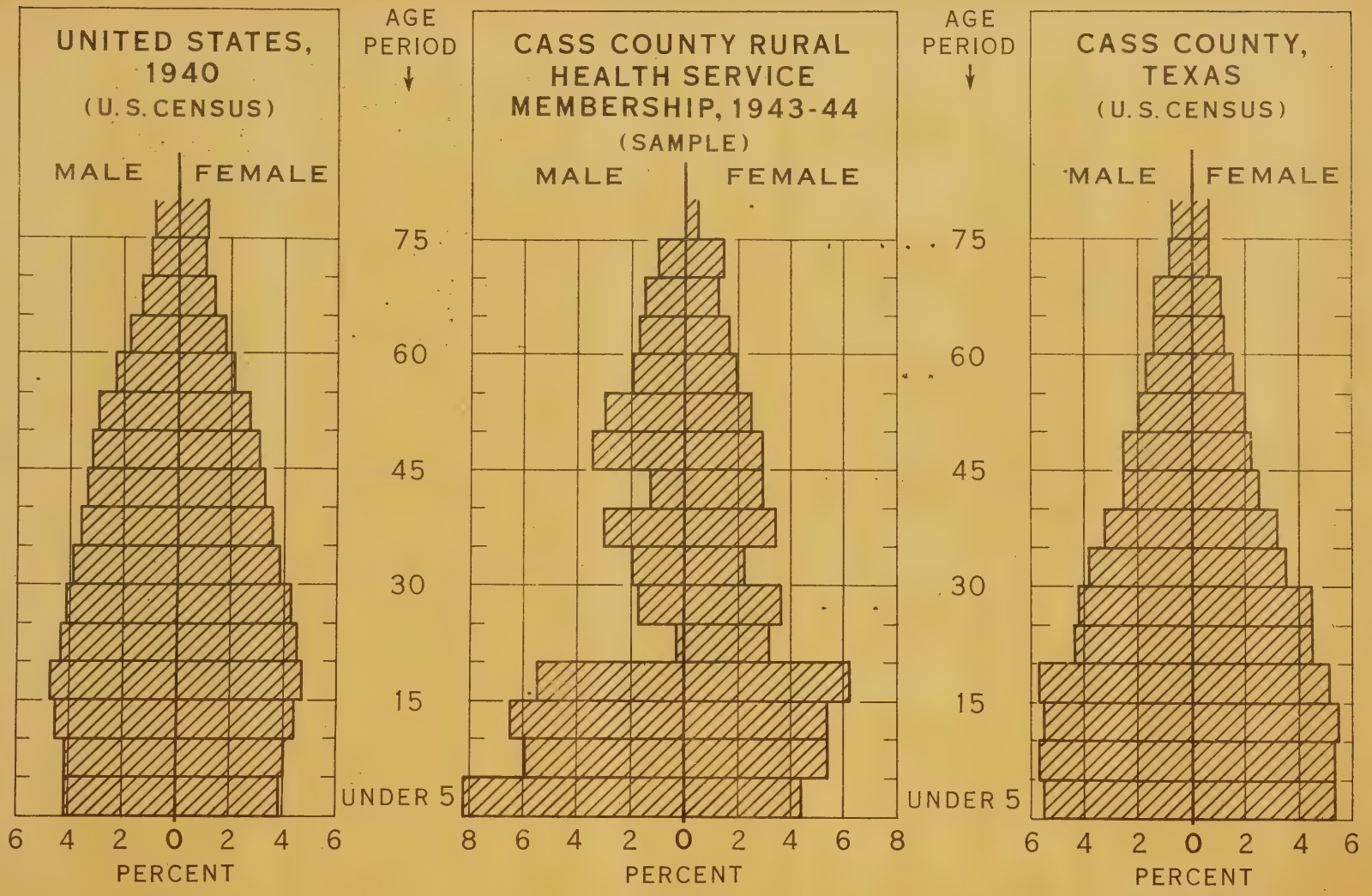
Medical trade area	Persons in Health Service 1/		Population 2/		Pct. of pop. members Health Service 3/	
	Number	Percent	Percent farm and nonfarm	Percent farm	Farm and nonfarm	Farm
Atlanta	3,458	44.0	41.2	34.7	29.5	51.7
Hughes Springs	810	10.3	27.2	14.9	19.7	28.3
Linden	3,592	45.7	31.6	50.4	28.6	37.0
County	7,860	100.0	100.0	100.0	27.7	40.8

1/ Members apportioned to medical trade areas on basis of addresses given in inventory sheets accompanying application for membership.
2/ Sixteenth Census of the United States, 1940, population II, Texas, Table 28, p. 202.
3/ Assuming a uniform population decrease of 15.2 percent between April 1, 1940 and October 1943, based on registrations for War Ration Book Four.

Age and Sex.- Age and sex composition of a population introduces important differentials with respect to health. In comparison with the total population of the United States and the total population of Cass County in 1940, the Health Service membership contains a disproportionately small number of both males and females in the age groups between 20 and 45 (figure 4). In addition, the association has a relatively large proportion of children which indicates an adverse selection of families from the viewpoint of health risks. It may very well be, however, that the 1944 age-sex pyramid of the total population of Cass County approximates the sample population in general characteristics. Abnormal age distribution of members is probably due to the draining off of men to the armed forces and women into urban employment.

Thus the association is providing medical and dental care to a group of people overweighted with age groups that require more health care than would a normally distributed population. For example, the annual rate of expectancy of respiratory diseases and conditions—the most common health trouble—is 459 cases per 1,000 of a general population, but 471 for a population displaying the same age and sex characteristics as the

AGE AND SEX PYRAMIDS FOR UNITED STATES POPULATION, ASSOCIATION MEMBERSHIP, AND CASS COUNTY, TEXAS



U. S. DEPARTMENT OF AGRICULTURE NEG. 45279 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 4

Cass County Rural Health Service membership. 28/

Sex ratio of the association population (number of males to 100 females) was 98 in 1943-44, compared with 104 for Cass County in 1940 and 101 for the United States. This relatively low ratio of males to females is no doubt an effect of the war.

Schooling.- About 8 out of 10 heads of member families had not attended school beyond the 8th grade (table 9). Schooling mentioned for older members should be interpreted not as attendance at graded school, but as progress in the old "blue-back speller" and McGuffey readers. Knowledge of the extent of schooling of association members is, of course, especially important to Health Service officials when planning and conducting the educational aspects of their program.

Table 9.- Highest grade (or equivalent) completed by heads of sample families in Cass County Rural Health Service, 1943-44.

Highest grade completed	Family heads	Percent
Grade school:		
None	6	6.6
1 - 4	19	20.9
5 or 6	21	23.0
7 or 8	26	28.6
High school:		
1 to 3	14	15.4
4	1	1.1
College:		
1 or more	1	1.1
Not reported	3	3.3
Total	91	100.0

Median grades completed - 6

Living Conditions of Members

As health is related to environmental sanitation, it is well to know something about the living conditions of Health Service families. Four rural-living items, therefore, were recorded for sample families as follows: (1) Source of family drinking water, (2) toilet facilities,

28/ Expectancy rates taken from The Fundamentals of Good Medical Care by Roger I. Lee and Lewis Webster Jones, Univ. of Chicago Press, Chicago, January, 1933.

(3) screens on the house, (4) number of persons per room. These items are discussed in this order.

Drinking Water Source.- Most association members, both Negro and white, still use old-fashioned open wells as a source of family drinking water (table 10), leaving much to be desired from the viewpoint of sanitation and health. Inadequate facilities are found among Negroes and white families in about the same proportions.

Table 10.- Source of family drinking water for 91 sample member families of the Cass County Rural Health Service, by race, 1943-44.

Source	White		Negro		White and Negro	
	Number	Percent	Number	Percent	Number	Percent
Spring	2	2.8	1	5.0	3	3.3
Open well	57	80.3	15	75.0	72	79.1
Protected well	9	12.7	4	20.0	13	14.3
Piped water	3	4.2	0	0.0	3	3.3
Total	71	100.0	20	100.0	91	100.0

Toilet Facilities.- Acceptable toilets are even scarcer than sanitary water supplies among member families (table 11). In view of past emphasis on sanitary pit privies by both the WPA and FSA it is somewhat surprising that about 9 out of 10 families should continue to use common privies. The proportion of whites is slightly greater than the proportion of Negroes having inadequate toilet facilities.

Table 11.- Toilet facilities of 91 sample member families of the Cass County Rural Health Service, by race, 1943-44.

Type	White		Negro		White and Negro	
	Number	Percent	Number	Percent	Number	Percent
None	1	1.4	1	5.0	2	2.2
Common privy	63	88.8	16	80.0	79	86.8
Pit privy (sanitary)	5	7.0	3	15.0	8	8.8
Flush toilet	2	2.8	0	0.0	2	2.2
Total	71	100.0	20	100.0	91	100.0

Screens.- The relatively high percentage (80.2) of member families with screened houses (table 12) is in sharp contrast to the low percentages of member families having acceptable toilet facilities and a sanitary

water supply. With respect to the first two items, living conditions for whites and Negroes were very nearly the same. In the case of screens, however, contrast between the two races is striking, with a difference of 51.5 percent in favor of the white population.

Table 12.- Screens on houses of 91 sample member families of Cass County Rural Health Service, by race, 1943-44.

House	White		Negro		White and Negro	
	Number	Percent	Number	Percent	Number	Percent
Screened	65	91.5	8	40.0	73	80.2
Not screened	6	8.5	12	60.0	18	19.8
Total	71	100.0	20	100.0	91	100.0

Persons per Room.- Overcrowded living conditions are generally considered to exist where dwellings contain more than 1 person to a room. 29/ By such a standard, less than two-thirds of Health Service families had adequate living space in 1943-44 (table 13). Negroes were more overcrowded than whites by about 15 percent.

Table 13.- Number of persons per room for the 91 sample member families of Cass County Rural Health Service, by race, 1943-44.

Persons per room	White		Negro		White and Negro	
	Number	Percent	Number	Percent	Number	Percent
1.00 or less	46	64.8	10	50.0	56	61.5
1.01 - 1.50	10	14.1	6	30.0	16	17.6
1.51 - 2.00	13	18.3	1	5.0	14	15.4
2.01 or more	2	2.8	3	15.0	5	5.5
Total	71	100.0	20	100.0	91	100.0
1.01 or more	25	35.2	10	50.0	35	38.5

As outward migration from Cass County during the war period has probably reduced the average number of persons per family dwelling it may be assumed that overcrowding would be greater during ordinary times than at present.

29/ Emma G. Holmes and Grace M. Angle, The Need for Rural Housing, Bureau of Human Nutrition and Home Economics, U. S. Dept. of Agri., April, 1944 p. 2.

Area Covered

The basis of preventive health work in a community is a well-organized health department, headed by an able, full-time medical health officer according to Lee and Jones. 30/ Estimates of the personnel required to staff a well-organized health department are given in table 14. The estimates are intended to apply to any standard population group of 100,000. It is at once apparent that Cass County's 30,000 population is incapable of supporting a full staff. If the personnel are estimated on a pro rata basis, Cass County might be expected to have the following personnel: 1 supervisor of nursing, about 8 nurses, 1 inspector of sanitation, and 1 assistant inspector of food and milk. In practice it might be possible to combine the work of minor personnel. But certainly the area covered must necessarily be broadened in order to maintain the services of the following: a medical health officer, a statistician, physicians specializing in venereal diseases, tuberculosis, and epidemic diseases, a chief inspector of food and milk, a sanitary engineer, a director of public health nursing, a director of popular health instruction, a bacteriologist, a chemist, and a technician.

When suggesting standards for rural counties Mustard sets one nurse per 2,000 population as desirable. 31/ On this basis Cass County should have about 14 public health nurses, which is about the number arrived at by Hiscock standards. One health officer and one sanitary engineer per 25,000 population is suggested as adequate by Mustard. Actually there is good reason to want a single standard for urban and rural public health rather than a double standard in which rural areas are allotted lower ratios of personnel.

Diagnosis and treatment has become increasingly dependent upon the use of scientific apparatus and equipment involving large capital investments. 32/ The tying in of outside hospital facilities and specialist services seems essential to any medical care program.

Table 15 indicates the relative amount of medical care received in and out of the county as measured by specified service charges. In-county charges for medical care among membership of the Cass County Rural Health Service varied from 83.7 percent for dentistry to 95.1 percent for general practitioner care during the first year compared with 85.3 percent and 97.1 percent respectively for the second year. In-county charges were larger during the second year than the first year.

30/ Roger I. Lee and Lewis Webster Jones, The Fundamentals of Good Medical Care, Univ. of Chicago Press, Chicago, Jan. 1933, p. 131.
31/ Harry Stall Mustard, Rural Health Practice, The Commonwealth Fund, N. Y. 1936, p. 48-9.
32/ The diagnostic procedures for X-ray work, for testing pathologic specimens, excretions, basal metabolism, etc., require large capital in investment in equipment, some of which can be obtained only in units much more expensive than an individual practitioner would be justified in buying.

Table 14.- Public health personnel required per 100,000 persons in general population for health preservation, and Cass County public health personnel September 1944, by function

Function	Personnel reauired per 100,000 of the general population 1/	Cass County personnel (Population 30,000)
1. General supervision	1 medical health officer	1 part-time medical health officer
2. Vital statistics	1 statistician	None
	2 clerks	None
3. Communicable disease control:		
a. Venereal diseases	1 physician	None 2/
	1 medical social worker	None 2/
b. Tuberculosis	1 physician	None
	1 clerk	None
c. Epidemic diseases	1 epidemiologist	None
	1 inspector	None
	1 clerk	None
4. Food and milk control	1 chief inspector	(1 inspector-
	4 assistant inspectors	(sanitary
5. Sanitation	1 sanitary engineer	(engineer
	3 inspectors	(
6. School health supervision	3/	
7. Public health nursing	1 director	(1 registered
	3 supervisors	(nurse-director
	25 nurses	None
8. Popular health instruction	1 director	None
	1 clerk	None
9. Laboratory service	1 bacteriologist	None
	1 chemist	None
	1 technician	None
	1 clerk	None

1/ Lee and Jones, Op. Cit., p. 131. Based on requirements as set forth by Ira Vaughan Hiscock in Community Health Organization, The Commonwealth Fund, N. Y.,1932.

2/ The medical health officer holds clinics.

3/ "The regular medical supervision of all school children, as of all members of the community, is provided for under the estimates of individual preventive services. Beyond the personnel required for these services, the regular visits of public health nurses, and the perfunctory inspections by the teachers, no additional personnel is required."

Table 15.- Charges for all services given by percentage in county and out of county, 1942-43 compared with 1943-44

Type of service	In county		Out of county		Total
	1942-43	1943-44	1942-43	1943-44	
	Percent	Percent	Percent	Percent	
General practitioner	95.1	97.1	4.9	2.9	100.0
Surgeon-specialist	90.4	91.7	9.6	8.3	100.0
Hospital	84.3	89.4	15.7	10.6	100.0
Dentist	83.7	85.3	16.3	14.7	100.0
Druggist	94.1	1/	5.9	1/	100.0
Total	92.1	93.9	7.9	6.1	100.0

1/ Drugs not included in the second year, 1943-44.
Source: Office records of Cass County Rural Health Service.

Organizational Structure

Type of Corporation.- The Cass County Rural Health Service is incorporated as a voluntary, benevolent, charitable, and educational association. 33/ An application for incorporation as a cooperative was denied by the Secretary of State on grounds that the Texas Cooperative Marketing Act includes no provision for chartering medical and hospital cooperatives. Essentially, however, the Health Service functions just as it would had it been incorporated as a cooperative. Under its charter, the Health Service may engage in any activity involving or relating to the securing for persons engaged primarily in agriculture of medical, surgical, and dental treatment or services, drugs, nursing, and it may perform any activity that will promote the health of farmers and agricultural workers, including the financing of such activities. 34/ Obviously, provisions of the charter are sufficiently liberal for the association to carry out a broad health program. In its full application such a program is the vehicle whereby large numbers of people join together in an organized effort to do three things: (1) To secure adequate medical care in cases of illness or accidents, (2) to conserve health and avoid sickness by obtaining preventive medical services and health information, and (3) to pool risks and financial resources so as to bring modern medical care within the range of most families.

Board of Directors.- A board of directors, composed of seven members, constitutes the governing body and directs the business of the Health Service. All members of the board are elected annually. 35/ Functions

33/ Articles of Incorporation, Article III.
34/ Ibid.
35/ By-laws, Article VI, Section 2.

of the board of directors include: (1) Selection of management for delegation of authority to it, (2) determination of policies for guidance of management, (3) control of expenditures by authorizing budgets,(4) Keeping members fully informed as to the business of the association, (5) causing audits tc be made at least once each year or oftener and reports thereof to be made directly to the board, (6) studying requirements of members and promoting good membership relations, and (7) prescribing the forms of contracts between members and the association. 36/

The board of directors elects by ballot from among their own number a president and a vice-president. They elect a secretary-treasurer who need not be a member of the association. Terms of office are for one year only. In addition, the board may contract for the services of a manager or general manager and may fix his compensation. The manager shall not be a member of the board. 37/ Directors, president and vice-president serve without compensation. The secretary-treasurer may be paid a reasonable salary as determined by the board.

The first board was composed of five men and two women, appointed by the chairman of the Agricultural Victory Council. Members of this board, named in the Articles of Incorporation, served until the first annual meeting of members, as provided in the by-laws, which was held October 29, 1943. Two members of the first board never paid their family fees, hence were never members of the association. During the second year six men and one woman made up the board and were, as required by the by-laws, members of the association. Board members in general are relatively large farm owners and operators, whose farms vary in size from about 125 acres to 3,300 acres. Six of the eleven individuals who have served as directors at one time or another during the 2 years of operation were members of local school boards, indicating acceptable roles of leadership in their respective communities.

All directors were members of the Agricultural Victory Council, including the chairman of that organization. One board member was a director of the Rural Electrification Administration, and another a director of the Production Credit Association. Two board members were outstanding leaders in their community churches.

For some reason directors have been concentrated in the western and southern parts of the county (fig. 2, page 7).

In the past it has been the board's policy to make decisions as to general policies and administrative procedures, leaving to the manager most of the day-to-day decisions and business details of the association. The board met usually on call of the manager. Periods between meetings varied from less than 1 week to more than 6 months. The board met a total of 14 times during the first 2 years.

36/ By-laws, Article VI, Section 1.
37/ By-laws, Article VI, Section 3.

The board appointed from its number an advisory committee to the board of directors on November 3, 1943. This committee met only once. The first annual meeting of members was held October 29, 1943.

President.- The president presides at all meetings of the members and of the board of directors; he executes all membership certificates, notes, bonds, mortgages, contracts, and all other instruments on behalf of the accociation; he is an ex officio member of all standing committees and has such powers as may be properly required of him by the board of directors. 38/

Manager.- Duties of the manager as outlined in the by-laws are as follows:

(1) To have charge of the direct management of the association's business in accordance with the instructions of the board of directors and under supervision of the board.

(2) To engage and discharge employees subordinate to him.

(3) To cause accurate books to be kept of the business and to submit the same together with all files, records, inventories, and other information for inspection at any time by the board of directors or by auditors appointed by the board.

(4) To give aid, advice, and recommendations to the board in the preparation of budgets and to furnish to the board once a month a statement in writing of the condition of the association's business and submit a report on the management at the regular meeting of the members.

(5) To assist the board in formulating policies and to attend to such other duties and offices as the board of directors may require. 39/

During the first 2 years of operation, 1942-43 and 1943-44, O. E. McGilvray was treasurer-manager of the Health Service. He was born in Harrison County, Texas, one county removed south of Cass, April 15, 1907. After completing his high school work he attended Marshall College for one session and then went to Colorado State College for a while. Mr. McGilvray owns, operates, and lives on a Cass County farm. He was connected with the Cass County Agricultural Conservation Program for 6-1/2 years, chairman of the county A.C.P. committee for 5 years. As chairman of the A.C.P. committee, he was likewise chairman of the Cass County War Board during 1940-41.

The treasurer-manager thus approached his position with the Health Service after a rich experience in working with Cass County farmers. As would be expected, therefore, he did an excellent job in spearheading the organization of a membership campaign, and in setting up affairs of the association on a business basis.

38/ By-laws, Article VII, Section 1. For duties of vice-president see Section 2.
39/ By-laws, Article VII, Section 4.

Salary of the treasurer-manager was $2,400 per year, plus a maximum allowance of $50 per month for travel at 5 cents per mile. The treasurer-manager was assisted by a stenographer-clerk whose salary was $1,800 per year. Her duties carry more responsibility than the title implies in that she handles most bookkeeping for the association.

Secretary-Treasurer.- Among the most important duties of the secretary-treasurer are: (1) To keep a complete record of all meetings, (2) to have general charge and supervision of the books and records, (3) to keep all monies and perform such duties with respect to the fanances as my be prescribed by the board of directors, (4) to sign all membership certificates with the president and other papers pertaining to the association as he may be authorized or directed to do by the board of directors, and (5) to serve notices required by law. 40/

In actual practice during the first 2 years of operation, it has been the policy of the board of directors to combine duties and responsiblities of secretary-treasurer and general manager in one person.

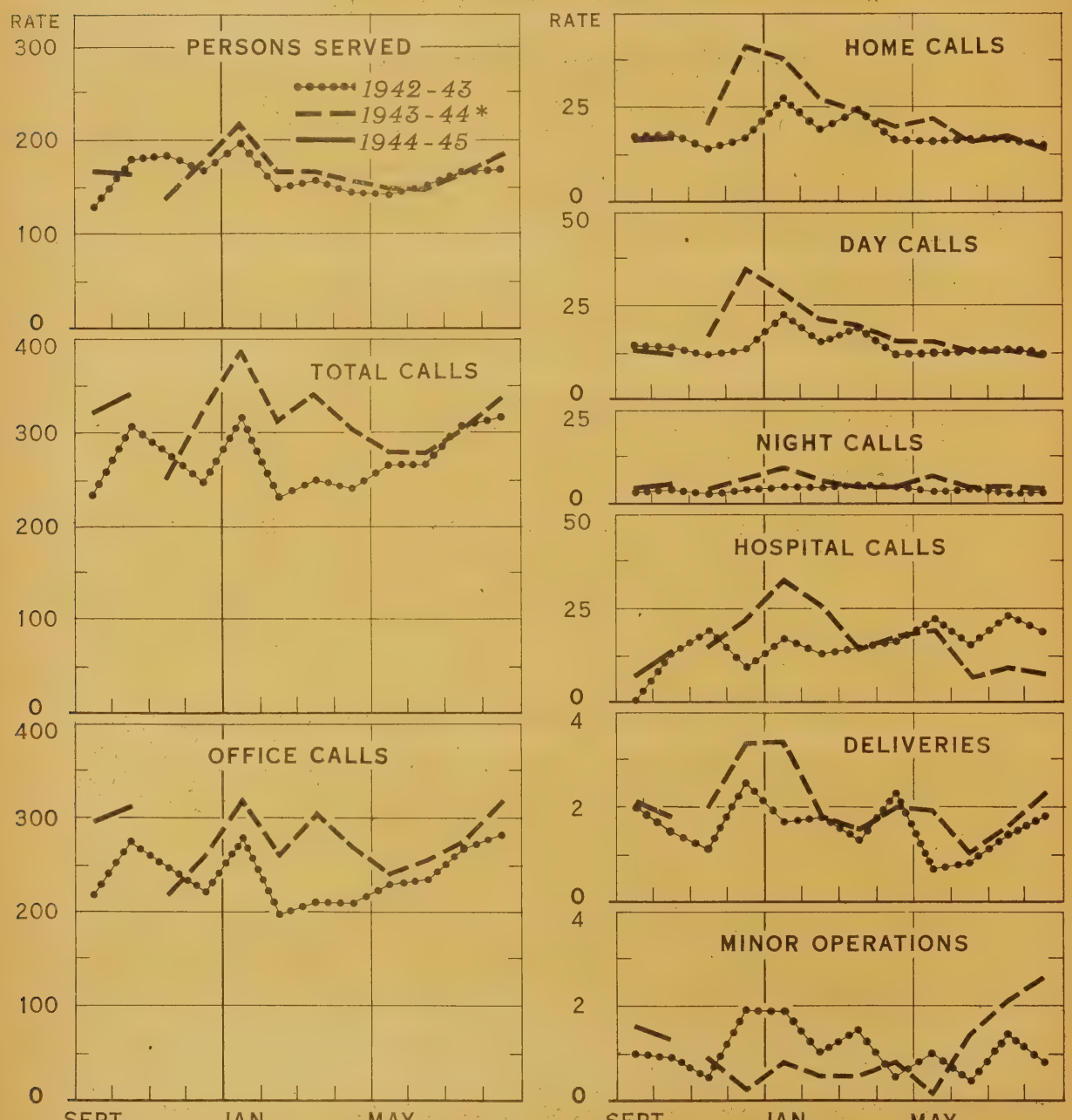
Professional Committees.- Physicians participating in the program selected a committee of three members from their number to review and, if deemed wise in their judgment, to adjust all bills submitted to the Health Service by physicians. A similar committee was selected by participating dentists. Druggists likewise selected a committee from their number for the 1 year during which drugs were included in the program. One of the functions of professional committees is to look out for the ethics of practice and the quality of service given. In general, professional committees have been perfunctory. They usually expect the association secretary to check bills and hence do not bother to meet. But these professional committees at least serve as safegurads. In case of a bill that seemed badly out of line, over which a dispute might arise, the appropriate professional committee would decide the amount to be paid.

Adjustments of most accounts are connected with oversights, such as the submittal of dubplicate bills. In the early days of the program, however, some bills submitted by physicians were adjusted downward rather sharply. Physicians whose bills had been thus reduced protested vigorously and these protests culminated in the selection of a new committee of physicians November 28, 1942. 41/ Although appointed by the board of directors of the Health Service, the new committee was accepted by all participating physicians. No serious question pertaining to the adjustment of bills has been raised by physicians serving the association since the new committee was appointed.

40/ By-laws, Article VII, Section 3.
41/ Minutes of board meeting, November 28, 1942.

SPECIFIED GENERAL PRACTITIONER SERVICES IN THE CASS COUNTY RURAL HEALTH SERVICE

RATES PER 1,000 PERSONS, BY MONTHS, SEPT. 1942 - OCT. 1944



SOURCE: OFFICE RECORDS OF CASS COUNTY RURAL HEALTH SERVICES

* *SERVICE LAPSED FOR 2 MONTHS, SEPT. AND OCT. 1943*

U. S. DEPARTMENT OF AGRICULTURE NEG. 45280 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 5

ANALYSIS OF SERVICES AND COSTS DURING THE FIRST AND SECOND YEARS OF OPERATION

Need for Medical Care

The needs for medical care among member families for the purposes of the study are determined primarily by the incidence and nature of illness. Annual illness rates per 1,000 persons were computed from records of the 403 persons included in the 91 sample families, and compared with expected rates of incidence of illness for a general population (table 16). 42/ In terms of incidence, as revealed through the sample population, the membership of the Cass County Rural Health Service shows higher rates in all categories of sickness and conditions with the exception of the puerperal state, diseases of the muscles, bones and joints, diseases of the circulatory system, neurasthenia and nervous exhaustion, nervous and mental conditions, and syphilis and gonorrhea. It should be borne in mind that certain limitations are placed upon the use of data for comparison purposes. No definite conclusions from the comparisons can be drawn because of differences in the way each series of data was collected. Lee-Jones data are based primarily on illness experience in Hagerstown, collected mainly through interviews with families. Cass County data are, after all, not actually a record of incidence of illness but rather a record of incidence of cases for which persons sought and received medical attention. However, within limitations, the comparing of the two sets serves to bring the limited experience in the Cass County program into a more general context from which many significant implications can be drawn.

of disease
High rates of incidence in the population of the Cass County Rural Health Service may be accounted for in part by the high proportion of children and old people in the membership (fig. 5). Statistical findings for the general population show high rates of illness in the first years of life, declining markedly in the late school and early adult ages. After passing the minimum around age 20, the morbidity curve rises gradually as age increases. But the high rates in Cass County are also due, no doubt, to the fact that the association membership contains a large number of Negroes, for it is known that the need for medical care is, in general, greater among Negroes than among white persons. Morbidity differences between the sexes are negligible in the first 15 years, but beyond this age the rates for females are consistently and definitely higher than those for males. This latter fact must also be considered as a partial explanation of high rates of illness among the membership of the Cass County Rural Health Service, since the sex ratio was 98 males to 100 females during the second year. Above all, it must be kept in mind

42/ Roger I. Lee and Lewis Webster Jones, The Fundamentals of Good Medical Care, Univ. of Chicago Press, Chicago, Jan. 1933, p. 3.

Table 16.- Annual illness rates per 1,000 persons during 1943-44 in the Cass County Rural Health Service, and annual expectancy rates of illness for a gneeral population, by specified diseases.

Item	No. of cases per 1,000 persons		
	Expected	Actual	Actual rate as percent of expected rate
Respiratory diseases	459	534	116
Digestive diseases	117	293	250
Acute communicable diseases	93	122	131
Injuries from external causes	54	119	220
The puerperal state	24	22	92
Syphilis and gonorrhea	23	15	65
General diseases	21	122	581
Diseases of the skin	20	89	445
Non-venereal female genito-urinary	16	99	619
Diseases of muscles, bones, joints	13	0	0
Diseases of kidneys and annexa	12	92	767
Diseases of the heart	12	107	892
Diseases of the circulatory system	7	7	100
Diseases of the ear and mastoid process	15	25	167
Diseases of the eye	9	42	467
Non-venereal male genito-urinary	1	7	700
Neuralgia, neuritis	13	82	631
Neurasthenia and nervous exhaustion	13	3	23
Nervous and mental diseases	7	5	71
All diseases and conditions	929	1,785	192

Source: Annual illness rates based upon tabulations of the incidence of sickness and conditions among the 403 persons included in the 91 sample families. Annual expectancy rates taken from The Fundamentals of Good Medical Care, by Roger I. Lee and Lewis Webster Jones, The University of Chicago Press, Chicago, 1933.

that the member families are drawn primarily from low-income farm families, many of whom live under extreme conditions of poverty and a minimum of a sanitary facilities. The relationship between level of living and incidence of sickness is too well known to require elaboration here.

Services Received by Members Within and Without the Association

Utilizing data from the association's ledger sheets showing the type and amount of service given to member families, and the answer to the

interview question dealing with extra-association service, (table 17) computations were made showing the proportion of families receiving specified services during 1943-44. Each family is credited with having received a specified kind of service even if only one member was served, regardless of the amount of care received.

Table 17.- Percentage of 91 sample families in the Cass County Rural Health Service receiving specified medical services during 1943-44, by medical trade area, by race, and by income group.

Item	General practitioner	Surgeon Specialist	Hospital care	Dentistry 1/	Refractions or glasses 2/	Drugs medicines 2/	Public Health Nursing etc.	Secondary practitioner
Medical trade area								
Atlanta	97.4	26.3	39.5	39.5	37.0	100.0	21.1	2.6
Hughes Springs	100.0	27.3	45.4	54.5	36.4	100.0	9.1	0.0
Linden	100.0	21.4	42.9	42.9	31.7	92.7	38.1	.0
Race:								
White	98.5	23.9	43.7	43.7	33.9	95.2	26.8	1.4
Negro	100.0	25.0	35.0	35.0	35.3	100.0	30.0	.0
Net income: 3/								
Under $250	98.4	31.1	40.1	42.6	38.2	94.5	29.5	1.6
$250 to 499	100.0	10.0	35.0	30.0	20.0	100.0	15.0	.0
$500 & over	100.0	20.0	60.0	70.0	33.3	100.0	50.0	.0
Total sample families	98.9	24.2	41.8	42.8	34.2	96.2	27.5	1.1

1/ Six families in the Linden area and 1 family in the Atlanta area reported receiving dental service outside the association, while they received none within the association. Of the families in the Linden area, 3 were white and 3 were Negro; 4 were in the low-income bracket, 1 in the middle bracket, and 1 in the upper bracket. The 1 family in Atlanta community was a white family in the low-income group. There are no dentists in the Linden area.

2/ Only 79 sample families reported on this item.

3/ Based on difference between income and expenses for 1942 as reported on inventory sheets used to make application for membership.

Almost all (98.9 percent) of the families sampled were served by general practitioners, and less than 2 percent resorted to secondary practitioners or cultists; 24 percent of the families had the services of a surgeon-

specialist and 41.8 percent were given hospital care. Forty-three percent of the families had some dental care in the course of the year. Only one family in the sample reported no use of the services offered by the Health Service.

No eye refractions or glasses, drugs, or secondary practitioner or cultist services were provided by the association during the second year. However, 34.2 percent of the sample families had refractions or bought glasses during the year; all but 4 percent of the families had some expenditure for drugs or medicine.

Medical care received, with the exception of general-practitioner care, varied markedly by medical trade areas, race, and income groups. In the case of surgery, the high proportion of families receiving care is associated with: (a) The medical trade areas of Hughes Springs and Atlanta, (b) the Negro population (the difference here is only about 1 percent), and (c) low-income families. Families with relatively high proportion of hospital care are found in: (1) The Hughes Springs and Linden medical trade areas, (2) among white families and (3) in the upper-income families.

The discrepancy in experience between income groups with respect to hospitalization on the one hand and surgical care on the other is puzzling. A possible explanation may be that low-income families tend to have a higher proportion of surgical care because of a high accumulation of defects previously not operated upon. On the other hand, hospitalization may be higher among upper-income families simply because on the basis of past experience they tend to be hospitalized more often for less serious conditions.

Dentistry service was more prevalent among families in the Hughes Springs medical trade area than in either Atlanta or Linden. Hughes Springs also was highest in percentage of families having refractions or buying eyeglasses. In respect to race, more white families went to a dentist than did Negro families, but a larger proportion of Negro families had refractions or bought glasses than did white families.

The vast majority of families, 96 percent, reported expenditures for drugs. All drugs obtained by members were bought privately. The only members who did not report purchase of drugs were white families in the Linden medical trade area with 1942 net cash incomes of less than $250.

Public health nursing or other public health service was given to 27.5 percent of the sample families, varying from 38.1 percent in the Linden area to 9.1 percent in the Hughes Springs area. This service was partially paid for by association funds that were used to pay salaries of public health nurses during part of the second year. Eleven percent of the sample families were dependent upon Old Age Assistance. In addition, 15.4 percent of the sample families were active Farm Security Administration borrowers.

General Practitioner Care

A more accurate method of indicating the utilization of medical service is that of measuring the number of services given to individuals rather than to families. This takes account of the relative size of families. Hence, rates of practitioner calls were computed for individuals, as well as for families (table 18). From these data it is apparent that persons in the Atlanta medical trade area tend to use the general practitioner more than families in either Hughes Springs or Linden areas. In fact, each person in the Atlanta area received on the average almost 40 percent more general-practitioner calls during 1943-44 than did each person in the Linden community. Such differences by community are explained entirely by customs or on the basis of medical need and availability of doctor or other personnel or facilities, since the economic factor has been eliminated by the prepayment plan.

Table 18.- Number of general practitioner calls per year per family, and per person, among the 91 sample member families, Cass County Rural Health Service, by medical trade area, by size of family, by race, and by income group, 1943-44.

Item	Number of general practitioner calls	
	Per family	Per person
Medical trade area:		
Atlanta	20.6	5.4
Hughes Springs	21.0	4.3
Linden	19.2	3.9
Size of family:		
1	3.5	3.5
2	19.9	10.0
3	16.0	5.3
4	26.7	6.7
5	18.6	3.7
6, 7	23.4	3.6
8 or more	18.8	2.1
Race:		
White	21.3	5.0
Negro	15.3	3.1
Net income:		
Under $250	18.8	4.5
$250 - $499	20.2	4.2
$500 and over	26.8	5.4
Total sample	20.0	4.5

Atlanta is different from the other two medical trade areas in many respects. It is relatively more urban, and it has the two largest hospitals in the county. There are more doctors, dentists, and medical facilities, and the general level of living is known to be higher. It has a smaller proportion of Negroes than Linden and only slightly above the proportion in Hughes Springs. Families tend to be smaller in Atlanta community and fewer families are in the low-income group. Hence, difference in the rate of general-practitioner calls per person in the Atlanta area, compared with Linden or Hughes Springs areas, is readily explainable. Small families tended to use the services relatively more than large families, white persons used them more than Negroes, and persons in the families of higher income bracket used them more than persons in low-income families.

Eighty-eight percent of the general practitioner calls during both years were office calls. There was a slight increase in the proportion of home calls and a slight decrease in the proportion of hospital calls during the second year. But for all practical purposes the pattern of general practitioner care, as shown by general-practitioner calls, was the same in the 2 years. There was, however, some variation in regard to general practitioner calls by medical trade area, race, and income group (table 19). Atlanta and Hughes Springs had a higher ratio of office calls than Linden but Linden had a higher proportion of hospital calls. White members had a higher ratio of office calls than did Negro members but lower ratios in all other kinds of calls, particularly hospital calls. Highest ratio of office calls was found among families with incomes of $500 or more and lowest ratio among medium income families ($250 to $499). Hughes Springs displayed a higher proportion of both night and day home calls than either Atlanta or Linden.

Table 19.- Percentage of total general practitioner calls among the 91 sample families by type of call, by medical trade area, by race, and by income group, during the second year (1943-44) of operation of the Cass County Rural Health Service.

Type of Call	Medical trade area			Race		Net Income			
	Atlanta	Hughes Springs	Linden	White	Negro	Under $250	$250-$499	$500 & over	Total sample
Office	90.2	89.6	84.1	88.9	80.4	87.4	84.4	92.2	87.8
Home:									
Day	4.0	6.5	4.5	4.2	5.9	4.3	5.2	4.1	5.6
Night	1.8	3.9	2.5	2.0	4.2	2.5	3.0	1.1	1.6
Hospital	4.0	0.0	8.9	4.9	9.5	5.8	7.4	2.6	5.0
All calls	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Not only does the kind of service vary between areas and population groups, but the volume of services tends to differ also (table 20). The ratio of office calls to 1,000 persons is proportionately high in

the Atlanta medical trade area, among the white population, and among persons in families with incomes of $500 or more.

Ratio of home day calls is highest in the Hughes Springs medical trade area, in the white population, and in the upper-income groups ($500 or more).

Home night calls are more prevalent in the Hughes Springs area, among Negroes, and in the middle-income groups.

Finally, hospital calls are more prevalent in the Linden medical trade area, among Negroes, and in the middle-income group.

Table 20.- Rate of specified types of general practitioner calls among the 91 sample families with membership in the Cass County Rural Health Service, 1943-44, by medical trade area, by race, and by income group.

Item	General practitioner calls per 1,000 persons 1/				
		Home			
	Office	Day	Night	Hospital	All calls
Medical trade area:					
Atlanta	4,876	214	103	214	5,407
Hughes Springs	3,833	278	167	0	4,278
Linden	3,319	176	98	353	3,946
Race:					
White	4,439	211	102	244	4,996
Negro	2,460	180	130	290	3,060
Income:					
Under $250	3,922	195	113	258	4,488
$250 - $499	3,505	217	124	309	4,155
$500 and over	4,940	220	60	140	5,360
Total sample	3,948	204	109	256	4,517

1/ Nov. 1, 1943 to Oct. 31, 1944.

Rates of services rendered by general practitioners increased during the second year. While the rate of cases requiring care of a general practitioner increased 4 percent in 1943-44 over that of the first year, most of the specified kinds of care increased in amounts ranging from no change in rate of minor operations to 32 percent for deliveries (table 21).

Table 21.- Total practitioner calls and calls per 1,000 persons, Cass County Rural Health Service, by type of call, by year, and percentage increase in calls per 1,000 persons, 1942-43 and 1943-44.

	1942-43 calls		1943-44 calls		Percentage increase
	Total	Per 1,000 persons	Total	Per 1,000 persons	per 1,000 persons
Office	29,796	2,868	26,018	3,310	15.4
Home					
Day	1,780	171	1,662	212	24.0
Night	442	43	482	61	41.9
Hospital	1,880	181	1,482	189	4.4
All calls	33,898	3,263	29,644	3,772	15.6
Cases requiring medical care	17,199	1,656	13,523	1,721	3.9
Deliveries	195	19	195	25	31.6
Minor operations	130	13	103	13	0.0
Mileage	17,020	1,638	14,635	1,862	13.7

Source: Based on office records of Rural Health Association.

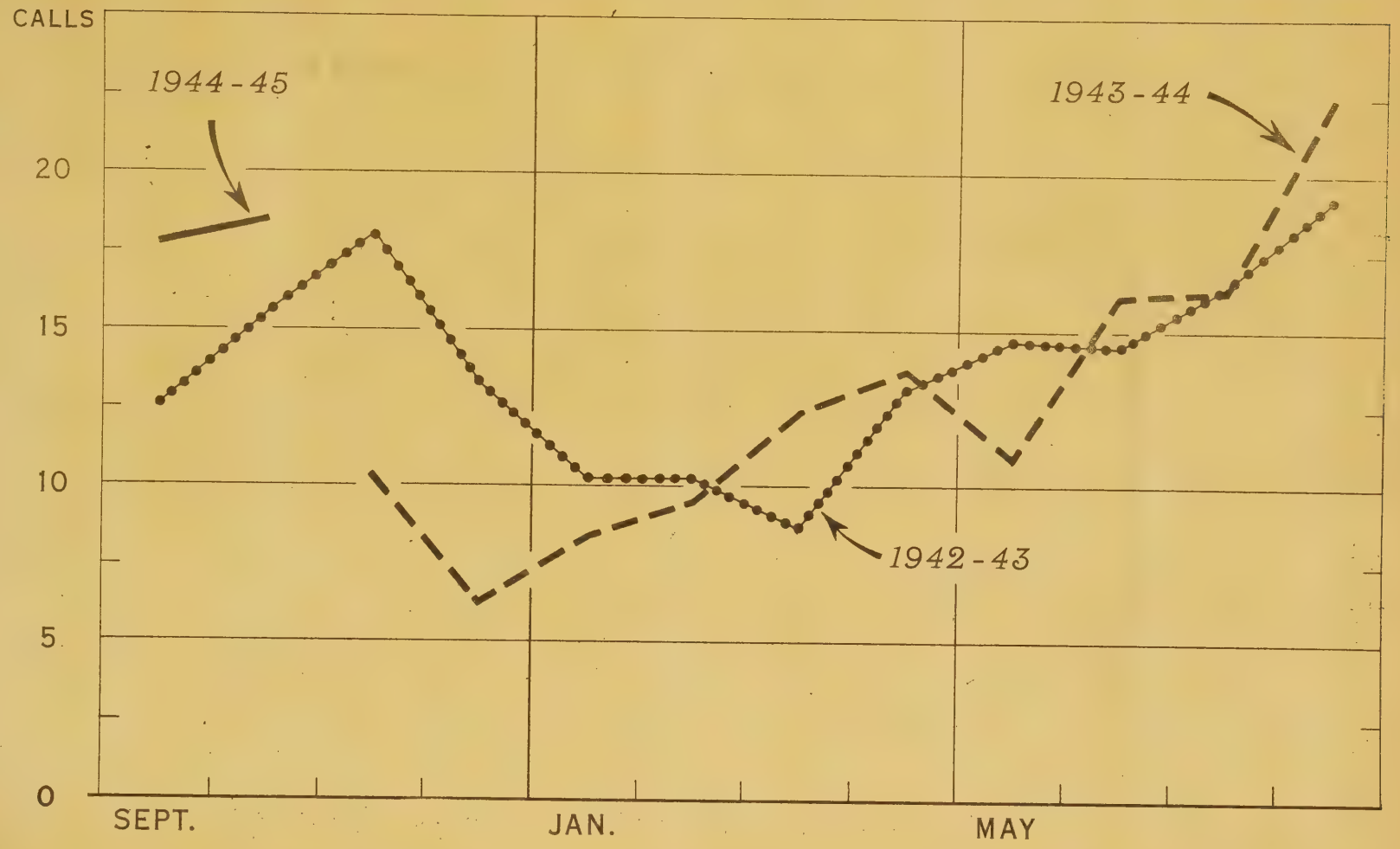
Seasonal Variations in General Practitioner Care.- Peak months of general practitioner calls during the first year occurred in October 1942 and January 1943 (fig. 5) and during the second year in October 1943 and January and March 1944. The effects of climatic factors on disease are well known. Many (if not most) diseases, such as the common cold, pneumonia, infantile paralysis, and others, exhibit a seasonal pattern. The greatest number of cases of the common cold, for example, occur during the months of January, February, and March, and the least during July and August.43/ No doubt climate has a direct bearing on the greater rates of general practitioner calls during the winter than during the summer. However, further analysis reveals that rate of calls for the cold months of November, December, January, February, and March during the first year averaged 12 calls less per 1,000 persons than the rate during the warm months. This situation was reversed in the second year and the average rate of calls for the 5 winter months was 14 calls per 1,000 higher than the other 7 months.

In addition to changes in rate of general practitioner care during certain months, there is evidently a change in type of calls (fig. 6). The ratio of office calls to home calls tends to fall during the winter and to increase in spring and summer. The greater difficulties of travel

43/ Climate and Man, United States Department of Agriculture, 1941, p. 243.

RATIO OF OFFICE CALLS TO HOME CALLS IN THE CASS COUNTY RURAL HEALTH SERVICE

NUMBER OF OFFICE CALLS TO EACH HOME CALL, BY MONTHS, SEPT. 1942 - OCT. 1944



SOURCE: OFFICE RECORDS OF CASS COUNTY RURAL HEALTH SERVICES

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FIGURE 6

by farm families to the doctor's office in cold weather may be a partial explanation and the type of illness during the winter may be a cause.

Deliveries and minor operations are included in the services of general practitioner. Physician calls are not reported in these cases but are included in the over-all charges for the specified condition. For this reason no statistical appraisal of maternal and infant care is possible. Trends in the rate of deliveries show some seasonal variation (fig. 5).

Charges for and Costs of General Practitioner Care.- Toral charges for all general-practitioner services amounted to $116,400.75 in 1942-43 and $75,906.50 in 1943-44. Charges per family decreased from $48.93 ($11.20 per capita) in 1942-43 to $42.34 ($9.53 per capita) in 1943-44. This reduction was due to a drop in fees charged during the second year for office calls and hospital calls (table 22), since the rate of calls increased in the second year.

Total amount paid for general practitioner care was $38,064.00 in 1942-43 and $28,240.00 in 1943-44, or $16.00 and $15.96 per family respectively. The amount paid of course is equivalent to the amount budgeted at the beginning of each year and hence is not a figure developed out of experience. The percentage of total charges paid in 1942-43 was 33 percent compared with 38 percent in 1943-44. Even though the compensation per unit of service may be somewhat lower than in their ordinary private practice, the number of units is so much greater that — as in any "mass production" situation — the ultimate profits are greater.

The difference between the amount charged and amount paid during the first and second years totaled $125,003.25. This represents the amount of additional money needed to pay for general practitioner received at supposedly prevailing fees for service. In terms of member families it represents an additional cost of $32.93 for the first year and $26.38 for the second. There are two possible explanations for the small percentage of payment for general practice. Either the medical fees charged are too high or the association is not providing sufficient money for general practitioner care. It may well be that both explanations are true. A partial recognition that fees were too high was made by the doctors after the first year when they voluntarily reduced the fee for office calls from $3 to $2, and the fee for hospital calls from $2 to $1. These fees perhaps still are slightly above the average charged to nonmembers since most of the doctors admit variable fees to nonmember patients.

Office calls charged for at the rate of $3 during the first year were paid for at the rate of $0.98. During the second year the respective charge and costs rates were $2 and $0.75. Cost for all calls combined decreased from $0.95 in 1942-43 to $0.74 in 1943-44.

Costs of deliveries averaged 15 percent higher during the second year than in the first, and minor operations averaged 14 percent higher.

Mileage costs averaged about the same for both years - 20 cents per mile (one-way) in 1942-43 against 19 cents per mile in 1943-44.

Table 22.- Charge and amount paid per service, Cass County Rural Health Service, by specified service, by year, 1942-43 and 1943-44.

Type of service	Amount charged per service		Amount paid per service	
	1942-43	1943-44	1942-43	1943-44
Calls:				
Office	$3.00	$2.00	$0.98	$0.75
Home day	2.00 1/	2.00	.65 1/	.75
Home night	3.00 1/	3.00	.98 1/	1.13
Hospital	2.00	1.00	.65	.38
All	2.89	1.97	.95	.74
Deliveries	35.00	35.00	11.45	13.19
Minor operations	24.11	23.98	7.89	9.00
Mileage	0.50 1/	0.50	.20 1/	.19

1/ Travel charge of $0.50 per mile one way from physician's office to patient's home is added to charge shown. Average mileage charge per home call (both night and day) was $3.83 for 1942-43 and $3.41 for 1943-44; amounts paid were $1.25 for 1942-43 and $1.29 for 1943-44.

Source: Office records of Cass County Rural Health Service.

During the first year of operation 38 physicians or clinics received payment for general practitioner care. Of this number 14 were in Cass County and one just over the county line at Naples in Morris County. Brooks Clinic (2 physicians) received the largest amount $9,288.72, followed by Ellington Memorial (2 physicians) with $7,266.10 (table 23). The accounts during the second year were substantially under those for 1942-43 but the relative position of the recipients was unchanged to any great extent.

Surgeon-Specialist Care

Examination of important items among the surgical operations shows that the most frequent surgical cases are those for removal of tonsils, constituting 53.4 percent of the total in 1942-43 and 37.5 percent in 1943-44. Gynecological cases comprised a rather large part of all surgical operations in both years, 9.6 percent in 1942-43 and 9.0 percent in 1943-44. Fractures constituted a larger percentage of the total operations in the second year than in the first (5.5 and 3.6 percent respectively). The most marked increase of any of the items of surgery occurred in the "other" category which included hernia, hemorrhoid, cataract, cancer, tachycardia, etc. The "other" category increased from 17.0 percent of total operations in 1942-43 to 30.9 percent in 1943-44.

Table 23.- Amount paid to specified participating physician, hospital, or clinic by Cass County Rural Health Service, by year, 1942-43 and 1943-44.

Physician or clinic	Amount paid for General Practice	
	1942-43	1943-44
Cass County:		
Physician 1	$ 913.28	$1,143.07
Clinic A	9,288.72	6,256.95
Physician 2	5,772.96	2,707.06
Clinic B	---	591.07
Clinic C	7,266.10	5,634.48
Physician 3	380.16	---
Physician 4	239.32	259.31
Physician 5	261.12	310.13
Physician 6	2,682.17	1,790.31
Physician 7	---	765.91
Physician 8	343.73	311.76
Physician 9	171.56	102.27
Physician 10	1,750.97	1,671.80
Physician 11	7,129.32	5,872.12
Clinic D	---	---
Out-of-county		
Physician 12 1/	1,395.71	480.23
Other 2/	467.39	343.53

1/ Located in Naples, Morris Co.
2/ In addition to the physicians and clinics here listed there were 23 additional out-of-county physicians or clinics sharing the funds during 1942-43 and 18 during 1943-44.
Source: Office records of Cass County Rural Health Service.

While tonsillectomies were the most prevalent type of surgical case in both years of operation table 24 shows that the rate during the first year (42.4 per 1,000 persons) was considerably higher than the rate for the second year (29.3 per 1,000 persons).

Cases requiring surgery numbered 71.2 per 1,000 persons during the first year compared with 74.3 per 1,000 the second year. Most of this increase was due to surgery classified as "other" and appendectomies.

The abrupt drop in rates of tonsillectomies and major gynecological cases may indicate that the health program during its first year was instrumental in clearing up the more acute cases which may have accumulated in prior years. If this is true (and professional and lay persons acquainted with the Cass County program say it is), apparently considerable time must elapse between the beginning of the program and the

appearance of normal surgery rates for the membership of the association. It is almost impossible, therefore, to evaluate the success or failure of a program such as the Cass County Rural Health Service on the basis of the operations for 1 or 2 years, for it is impossible to measure the accumulated suffering that the program has relieved.

Table 24.- Total surgery cases and cases per 1,000 persons, by type, by years, and percentage change per 1,000 persons, 1942-43 and 1943-44.

Type of surgery	1942-43 cases		1943-44 cases		Percentage change per 1,000 persons
	Total	Per 1,000 persons	Total	Per 1,000 persons	
Tonsillectomies	440	42.4	230	29.3	-30.9
Appendectomies	135	11.0	105	13.4	21.8
Gynecological					
Major	53	5.1	31	3.9	-23.5
Minor	26	2.5	24	3.1	24.0
Fractures					
Major	6	0.6	6	0.8	33.3
Minor	24	2.3	28	3.5	52.2
Other					
Major	55	5.2	74	9.4	80.8
Minor	85	8.2	115	14.6	78.0
Cases requiring surgery	740	71.2	584	74.3	4.4

Source: Office records of Cass County Rural Health Service.

Seasonal Variations in Surgical Operations.- Some types of surgical cases have cyclical patterns. For tonsillectomies the highest rates appear in July, August, and September (fig. 7). It seems customary for children with infected tonsils to have them out just before returning to school.

Appendectomy rates show different trends during the 2 years of operation. During the first year the rate rose abruptly in the second month after which it dropped and leveled off, then it skyrocketed in the last month of the year. This might indicate a tendency to take advantage of the program while it was available, in case it was not continued. The trend in the rate of appendectomies was generally the same during the early parts of both years but no rush for services in the closing month was noticed in the second year. However, the rate for January 1944 (2.4 cases per 1,000 persons) came close to the peak of 2.9 cases per 1,000 persons in August of 1943.

Rates of gynecological case show little or no seasonal fluctuations in either year of operation. Fractures constitute a small part of total

surgical operations and no definite trends are observable. "Other" surgery tended to follow the line of appendectomies, rising abruptly early in the year then falling back, but rising swiftly in the last few months of both years.

Charges and Costs of Surgeon-Specialist Care.- Charges for surgeon-specialist care amounted to $32,831 during 1942-43 and $25,043.50 during 1943-44, $13.80 and $14.16 per family respectively. Actual amounts paid for surgery specialist care amounted to $14,274.00 in 1942-43 and $12,355.00 in 1943-44, $6.00 and $6.98 per family respectively. Percentage of total charges paid rose from 44 percent in 1942-43 to 49 percent in 1943-44. Thus, the association has been instrumental in securing for member families a reduction of more than 50 percent in the cost of surgery, a total during the 2 years of $32,245.50. This does not mean that without the association there would have been anywhere near as much medical care contracted for by individuals and paid in full by them.

Fees charged by surgeons for service were the same in both years, $25 for a minor and $75 for a major operation (table 25). The average cost for all surgical operations rose from $17.33 in 1942-43 to $20.07 in 1943-44 mostly as a result of an increase of $1 per family budgeted for surgery in the second year.

Table 25.- Amount charged and amount paid for surgery, Cass County Rural Health Service, by type of case, by year, 1942-43 and 1943-44.

Type of case	Average Amount charged per case		Average Amount paid per case	
	1942-43	1943-44	1942-43	1943-44
Tonsillectomy	$ 25.00	$ 25.00	$ 10.88	$ 12.33
Appendectomy	75.00	75.00	32.63	36.98
Gynecological				
Major	75.00	75.00	32.63	36.98
Minor	25.00	25.00	10.88	12.33
Fracture				
Major	70.83	75.00	30.81	36.98
Minor	25.00	23.93	10.88	11.80
Other				
Major	75.00	72.64	32.63	35.81
Minor	22.72	17.60	9.88	8.68
All surgical	39.84	40.72	17.33	20.07

Source: Office records of Cass County Rural Health Service.

In addition to the amount received for general practitioner care 6 of the physicians or clinics during the first year and 9 during the second year were remunerated for surgeon-specialist care (table 26).

It is apparent that payments for general practitioner, surgery, and specialist care are fairly concentrated. In fact, 80 percent of the total amount paid during the first year for general practitioner, surgery, and specialist care and 79 percent during the second year went to 6 doctors.

Table 26.- Amount paid for surgeon-specialist care, and for general practitioner care and surgeon-specialist care combined, to specified participating physician, hospital, or clinic by Cass County Rural Health Service, by year, 1942-43 and 1943-44.

Physician or clinic	Amount paid for Surgeon-specialist 1/		Amount paid for general practitioner and surgeon-specialist	
	1942-43	1943-44	1942-43	1943-44
Cass County				
Surgeon 1	---	49.08	913.28	1,192.15
Clinic A	4,365.39	4,219.76	13,654.11	10,476.71
Surgeon 2	---	19.40	5,772.96	2,786.46
Clinic B	---	889.80	---	1,480.87
Clinic C	5,627.73	4,655.38	12,893.83	10,289.86
Surgeon 3	---	---	380.16	---
Surgeon 4	---	---	239.82	259.31
Surgeon 5	---	---	261.12	310.13
Surgeon 6	598.07	360.24	3,280.24	2,150.55
Surgeon 7	---	---	---	765.91
Surgeon 8	---	---	343.73	311.76
Surgeon 9	---	---	171.56	102.27
Surgeon 10	30.41	19.47	1,781.38	1,691.27
Surgeon 11	129.51	417.56	7,258.83	6,289.68
Clinic D	2,124.38	589.00	2,124.38	589.00
Out-of-county				
Surgeon 12 1/	---	---	1,395.71	480.23
Other 2/	1,391.93	1,075.29	1,859.32	1,418.82

1/ Located in Naples, Morris Co.
2/ In addition to the physicians and clinics here listed there were 27 out-of-county physicians or clinics sharing in surgeon-specialist funds during 1942-43 and 23 during 1943-44.
Source: Office records of Cass County Rural Health Service.

Hospital Care

There were 138.7 cases hospitalized for 1 or more days per 1,000 persons in the membership during 1942-43, and 160.1 per 1,000 persons during 1943-44. Hospitalization is not so much a matter of the severity of disease as of the nature of medical need, particularly with respect to conditions which require surgical operations. The most frequent hospital cases are those admitted for appendectomies, tonsillectomies, and deliveries. Almost half (47.6 percent) of the hospital cases reported in the 91 sample families were admitted for surgical operations, when deliveries are counted as surgical cases.

Hospital days per 1,000 persons were 1.8 percent less during the second year than the first (table 27). Rate of X-ray examinations went up 43.1 percent in the second year over the first.

Table 27.- Total hospital services and services per 1,000 persons provided to members Cass County Rural Health Service, by type of service, by year, and percentage charge per 1,000 persons, 1942-43 and 1943-44.

Type of service	1942-43 Services: Total	1942-43 Services: Per 1,000 persons	1943-44 Services: Total	1943-44 Services: Per 1,000 persons	Percentage change per 1,000 persons
Hospital days	5,193	499.9	3,861	491.2	-1.8
X-rays	417	40.1	451	57.4	43.1
Anesthesia	1/	——	649	82.6	——
Operating room	1/	——	505	64.2	——
Other	43	4.1	——	——	——

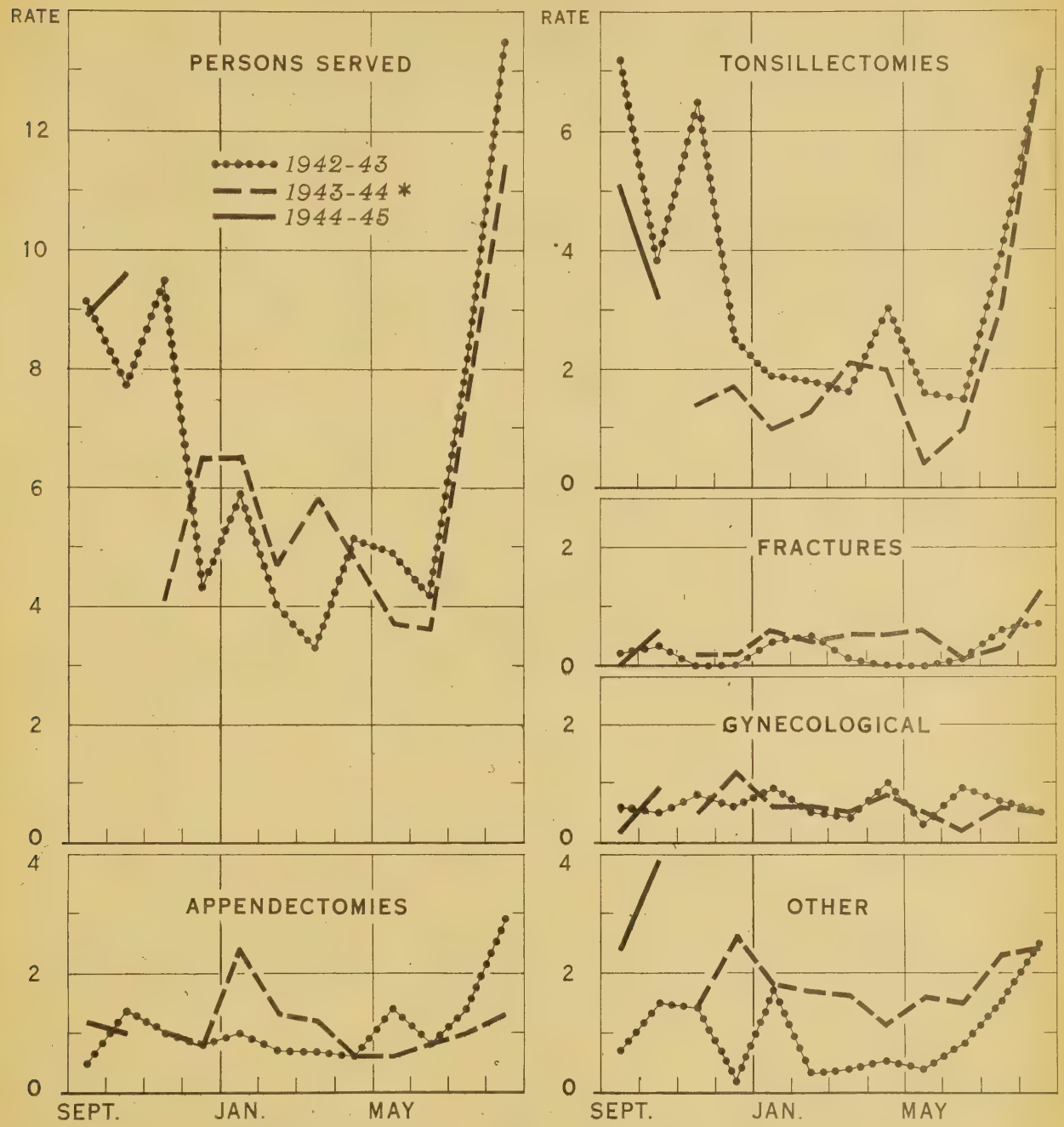
1/ Anesthesia and operating-room fees were included in charges of $5 for each hospital day in 1942-43, no "other" in 1943-44.
Source: Office records of Cass County Rural Health Service.

Seasonal Variations in the Rate of Hospital Service.- Monthly rates for days of hospitalization, although varying considerably, were higher in early winter and late summer (fig. 8). These variations were somewhat similar to those for appendectomies and tonsillectomies (fig. 7). Adequate standards of care require that each appendectomy case receive about 10 hospital days in comparison with 1 day for each tonsillectomy. 44/ Hence, appendenctomy rates probably influenced rates for days of hospitalization for Health Service members, more than did rates for other types of surgery.

44/ Op.Cit. Lee and Jones, p. 155 and p. 169.

SURGICAL OPERATIONS IN THE CASS COUNTY RURAL HEALTH SERVICE

RATES PER 1,000 PERSONS, BY MONTHS, SEPT. 1942 - OCT. 1944



SOURCE: OFFICE RECORDS OF CASS COUNTY RURAL HEALTH SERVICES

** SERVICE LAPSED FOR 2 MONTHS, SEPT. AND OCT. 1943*

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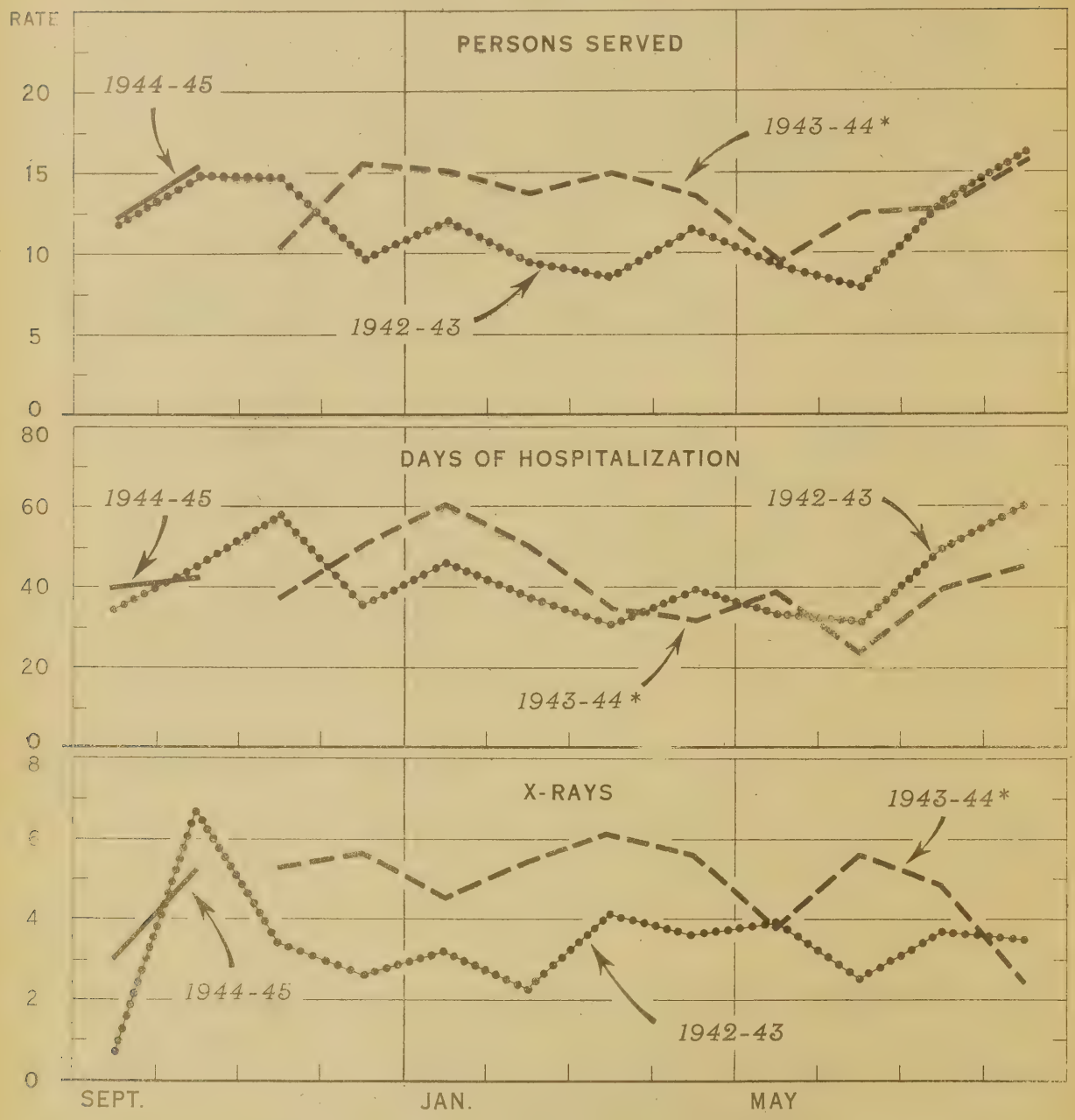
FIGURE 7

SPECIFIED HOSPITAL SERVICES IN THE CASS COUNTY RURAL HEALTH SERVICE

RATES PER 1,000 PERSONS, BY MONTHS, SEPT. 1942 – OCT. 1944



SOURCE: OFFICE RECORDS OF CASS COUNTY RURAL HEALTH SERVICES

*SERVICE LAPSED FOR 2 MONTHS, SEPT. AND OCT. 1943

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FIGURE 8

The chart on new admissions shows fairly uniform rates during both years whereas rates of hospital days vary sharply. These data suggest that rates of hospital care are affected more by kinds of cases than by number of cases or new admissions.

Charges and Costs of Hospitalization.- Hospitalization charges amounted to $28,912.50 in 1942-43 and $23,025.00 in 1943-44, with an average charge per family of $12.15 and $13.02 respectively. Actual cost of this service amounted to $23,790 in 1942-43 and $15,881.50 in 1943-44, or an average of $10 and $8.98 per family respectively. The smaller amount paid for hospital care during the second year was due to a reduction of $1 in the amount budgeted per family. As a result, only 69 percent of the total charges were paid in 1943-44 compared with 81 percent in 1942-43.

Because of a change in the method of paying for hospital care at the beginning of the second year, it is impossible to compare the cost of hospital days in the 2 years of operation. During the first year charges for anesthesia and operating-room were included in the fee of $5 per hospital day, while in the second year these items were charged and paid for separately (table 28). Therefore for a basis of comparison all hospital service costs have been computed on the basis of hospital days. On this basis little difference in charge per hospital day was noted between the first and second year ($5.57 in 1942-43 and $5.96 in 1943-44). Likewise the average amount paid per service varied little, $4.51 in 1942-43 against $4.11 in 1943-44. But it should be observed that the differences in charge and cost between these 2 years are inverse; that is, charges per service rose whereas costs per service declined.

Table 28.- Amount charged and amount paid for hospital services Cass County Rural Health Service, by type of service, by years, 1942-43 and 1943-44

Type of service	Average amount charged per service		Average amount paid per service	
	1942-43	1943-44	1942-43	1943-44
Hospital day	$5.00	$3.50	$4.05	$2.42
X-ray	6.79	6.73	5.50	4.64
Anesthesia	1/	5.28	1/	3.64
Operating room	1/	6.03	1/	4.16
Other	2.72	----	2.20	----
Total per hospital day	5.57	5.96	4.51	4.11

1/ Anesthesia and operating-room fees were included in charges of $5 per hospital day in 1942-43.

Source: Office records of Cass County Rural Health Service.

The reduction in hospital bills to member families by the association amounted to $12,658.50 for the 2 years of operation or about one-fourth of total hospital bills. But it cannot be assumed that all of these hospital bills would have been contracted for by individual families and paid in full by them if there had been no association.

Three of the four hospitals in Cass County received 84 percent of the money budgeted to hospital care during the first year and 86 percent of the hospital fund for the second year (table 29).

Table 29.- Amount paid for hospitalization to specified participating hospital or clinic by Cass County Rural Health Service by year, 1942-43 and 1943-44.

Hospital or clinic	Amount paid for hospital service	
	1942-43	1943-44
Clinic A	$ 8,627.76	$ 6,293.30
Clinic B	3,778.16	2,347.88
Hospital A	7,152.42	5,038.07
Clinic C	234.50	318.88
Other 1/	3,637.66	1,832.42

1/ Eighteen out-of-county hospitals during 1942-43 and 22 during 1943-44 received funds from the Health Service for hospital care given.

Dental Service

Dental disease is perhaps the commonest of all physical defects. A survey of dental conditions among 6,701 school children in Texas disclosed that decay was widespread among white, Mexican, and Negro children. The three groups ranked according to the percentage of children having one or more decayed teeth, white poorest, Mexican next, and Negro best (see footnote to table 30). Perhaps any broad dental program might clear up the most neglected cases in the beginning and then the work would level off. Apparently this is what has happened in Cass County. Rate of extractions declined 27.1 percent in the second year, cement or porcelain fillings 30.2 percent, and amalgam fillings 36.6 percent (table 30). But rate of periodontal treatments increased 14.0 percent and X-rays 58.2 percent. Dentists in the program are agreed that the first year was well spent in "cleaning up the worst mouths." Then gradually the dentists began to do many of the things that needed to be done but which most patients would not have done under previous conditions such as use of X-rays and periodontal treatments.

Only limited headway has been made in proper preventive dentistry among children. Most of the dentists' time is still taken up in extractions and fillings, usually among older people. As more than one-third of the

total population covered by membership is under 15 years of age a major emphasis could reasonably be put on dental education and care among this group. Prophylaxis has been negligible during the first 2 years, not warranting inclusion as a category in tables 30 and 31.

Table 30.- Total dental services and services per 1,000 persons provided members, Cass County Rural Health Service, by type of service, by year, and percentage charge per 1,000 persons, 1942-43 and 1943-44.

Type of service	1942-43 services		1943-44 services		Percentage change per 1,000 persons
	Total	Per 1,000 persons	Total	Per 1,000 persons	
Extractions 1/	7,360	708.4	4,059	516.4	-27.1
Fillings, cement or porcelain	843	81.1	445	56.6	-30.2
Fillings, amalgam	2,068	199.1	992	126.2	-36.6
Periodontal treatments	460	44.3	397	50.5	14.0
X-rays	189	18.2	226	28.8	58.2
All services	10,920	1,051.1	6,119	778.5	

1/ Jessie Whitacre, Dental Decay Among Texas School Children, Tex. Ag. Exp. Sta. Bul. No. 491, (Aug. 1943) p. 26-7.

Source: Office records of Cass County Rural Health Service.

Seasonal Variations in Dental Service.- Data confirm the statements made by participating dentists that during the first months of the initial year's program there was a rush for dental services, particularly for extractions and fillings (fig. 9). The peak in rate of periodontal treatments occurred in February 1944 and the peak for X-rays was in October 1944.

Charges and Costs of Dental Service.- Charges for dental care amounted to $16,625.01 in 1942-43 and $9,197.00 in 1943-44, or $6.99 and $5.20 per family respectively. As charges were paid completely during both years of operation, fees charged were fairly well stabilized in both years (table 31). The drop in the average cost per family of $1.79 during the second year was due to a reduced amount of service, for the fees were changed very little.

Table 31.- Amount charged and amount paid for dental service, Cass County Rural Health Service, by type of service, by year - 1942-43 and 1943-44.

Type of service	Average amount charged per service		Average amount paid per service	
	1942-43	1943-44	1942-43	1943-44
Extraction	$0.93	$0.93	$0.93	$0.93
Filling, cement or porcelain	3.00	3.00	3.00	3.00
Filling, amalgam	3.00	3.00	3.00	3.00
Periodontal treatment	1.08	1.00	1.08	1.00
X-ray	2.86	3.23	2.86	3.23

Source: Office records of Cass County Rural Health Service.

The three in-county dentists cooperating with the association all located at Atlanta, received 75 percent of the cost of dental care during 1942-43 and 64 percent during 1943-44 (table 32).

Table 32.- Amount paid for dental services to specified participating dentists by Cass County Rural Health Service by year - 1942-43 and 1943-44.

Dentist	Amount paid for dental services	
	1942-43	1943-44
Cass County:		
Dentist 1	$4,241.74	$1,554.25
Dentist 2	4,428.75	3,193.87
Dentist 3	3,770.65	2,581.31
Other 1/	2,524.86	1,279.57

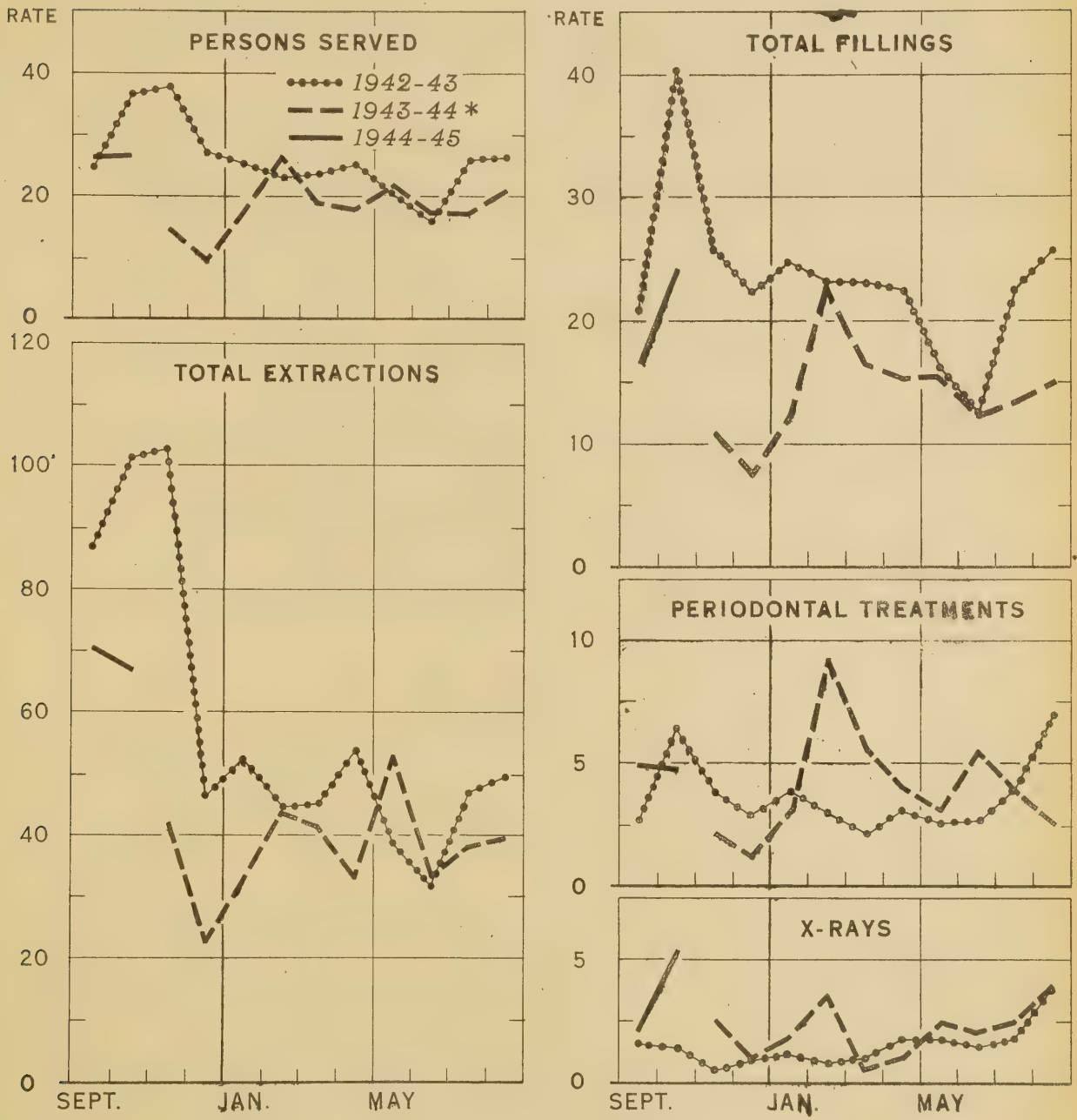
1/ There were 7 out-of-county dentists during 1942-43 and 5 dentists during 1943-44 who received money from the Health Service.
Source: Office records of Cass County Rural Health Service.

Drug Service

A change in the policy regarding drugs during the first year no doubt affected the trend of drug service (fig. 10). Beginning in February 1943 only 50 percent of the drug bills were paid by the association, the remaining 50 percent being paid by the families who received the drugs. Average monthly rate during the 5 months before the change

SPECIFIED DENTAL SERVICES IN THE CASS COUNTY RURAL HEALTH SERVICE

RATES PER 1,000 PERSONS, BY MONTHS, SEPT. 1942 - OCT. 1944



SOURCE: OFFICE RECORDS OF CASS COUNTY RURAL HEALTH SERVICES

* SERVICE LAPSED FOR 2 MONTHS, SEPT. AND OCT. 1943

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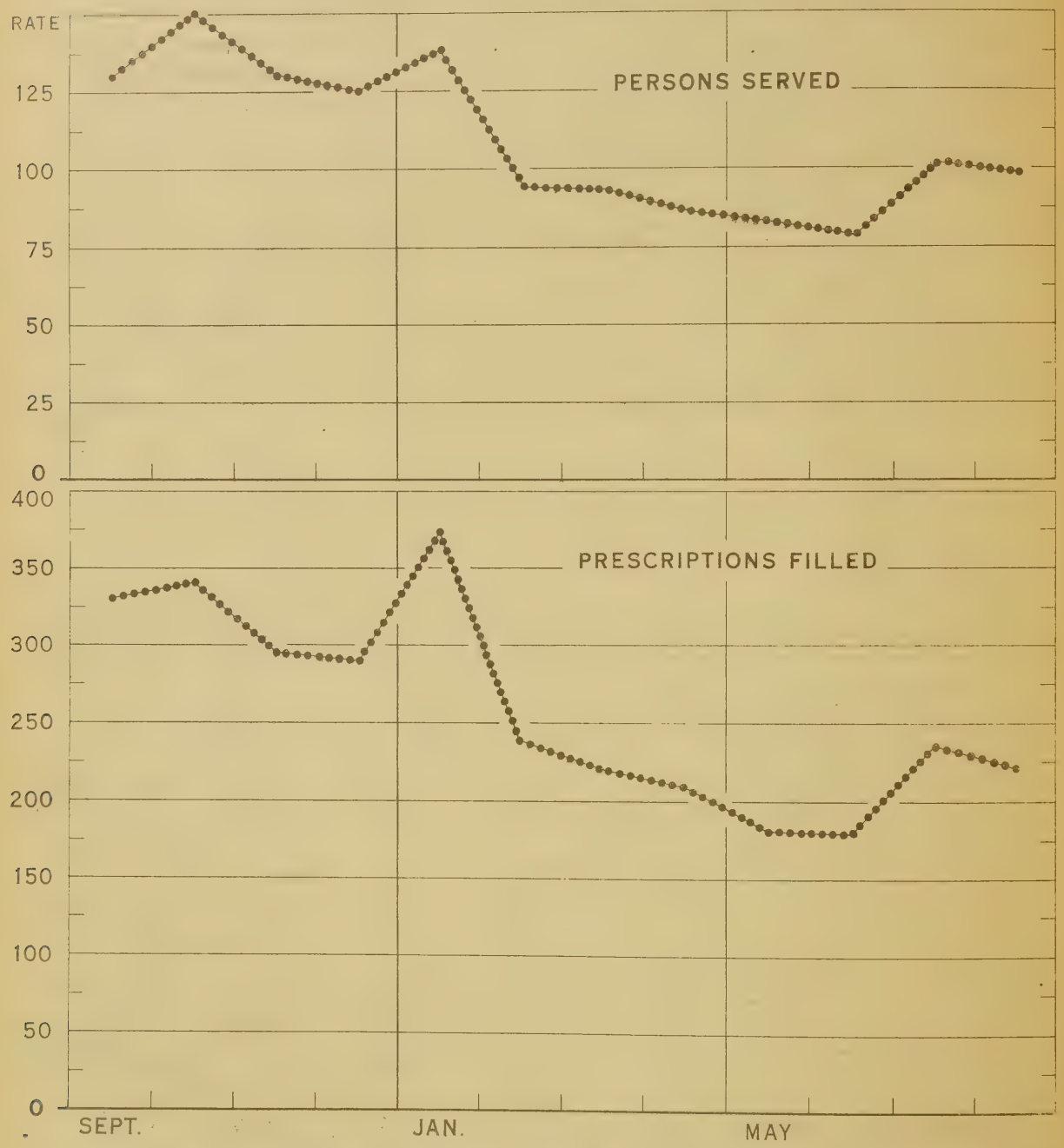
FIGURE 9

DRUG SERVICE IN THE CASS COUNTY RURAL HEALTH SERVICE

RATES PER 1,000 PERSONS, BY MONTHS, SEPT. 1942–AUG. 1943



SOURCE: OFFICE RECORDS OF CASS COUNTY RURAL HEALTH SERVICES
BEGINNING FEB. 1943, THE ASSOCIATION PAID ONLY 50 PERCENT OF DRUG BILLS FOR MEMBERS

U. S. DEPARTMENT OF AGRICULTURE NEG. 45285 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 10

went into effect was 326 prescriptions per 1,000 persons compared with 213 in the 7-month period after the change. In other words, monthly prescription rates ran 53.1 percent higher when all drug bills were paid by the association than when 50 percent of them were so paid.

Drug prescriptions during the first year ran at the rate of about 3 per person per year. The average charge for a prescription during the first 5 months, when the association paid all costs of drugs, was $0.88, and the total amount paid by the association was $0.41. During the next 7 months of the first year, when the association paid only 50 percent of the drug bill, the average charge per prescription was $0.92, of which $0.46 was billed to and paid by the association. Although $6 per family was budgeted to drugs for the entire year, actually $7 per family, or a total of $16,653.00, was paid by the association. To this, of course, must be added $7,169.51 for which the families were liable as their half of the drug bills for the last 7 months, or $3.01 per family. The cost per family for the complete payment of drug bills would have averaged $21.18. In 1943-44 the 79 sample families reporting on purchase of drugs spent an average of $28.06 per family for medicines, none of which were paid for by the association. Apparently farm people of Cass County have come to depend upon drugs largely because of the unavailability of physicians' care. Furthermore, a large part of the drugs prescribed by physicians suggests somewhat a mediocre quality of medical practice, since the vast majority of the drugs prescribed are symptomatic only and do not get at the cause of the disease.

Nursing Service

Nursing service was confined to public health clinics and no statistical record was kept of persons served. Nursing was available 2 weeks in January 1943 and during the last 5 months of the 1942-43 program year; two nurses were hired in June and July 1943 (table 33). During the second year one nurse was on duty for 6 months (from March through August 1944).

Total cost of nursing service amounted to $1,359.65 in 1942-43 and $1,128.33, or $0.57 and $0.64 per family respectively. If rates based upon the 403 persons included in the sample survey are used it appears that 1,263 immunizations for diphtheria, typhoid fever, and small pox were given to members of the Cass County Rural Health Service by the Public Health Unit between September 1, 1942 and August 30, 1943. During the second year a total of 1,814 immunizations to members are indicated. No definite record of nursing visits or clinic treatments is available but they are known to have been important.

The number of venereal-disease patients among the members is not known, but any such cases are eligible for treatment in public clinics. Cases of tuberculosis among members are constantly being uncovered and a few crippled children have been provided for.

Table 33.- Cost of nursing service for the Cass County Rural Health Service, by item, by month, 1942-43 and 1943-44.

Year and month 1/	Salary	Travel	Supplies	Total charge
1943				
January	$ 96.00	$ 29.00	$ ———	$ 125.00
February	———	———	22.13	22.13
March	———	———	———	———
April	125.00	50.00	———	175.00
May	125.00	50.00	———	175.00
June	281.27	112.50	———	393.77
July	206.25	75.00	———	281.25
August	137.50	50.00	———	187.50
Total	971.02	366.50	22.13	1,359.65
1944				
March	103.33	37.50	———	140.83
April	137.50	50.00	———	187.50
May	150.00	50.00	———	200.00
June	150.00	50.00	———	200.00
July	150.00	50.00	———	200.00
August	150.00	50.00	———	200.00
Total	840.83	287.50	———	1,128.33

1/ Nursing service provided only for month shown.

Source: Office records of Cass County Rural Health Service.

Administration

Administrative costs actually covered a period of 14 months for the first year's operation, as a membership drive was started July 1, 1942. A similar period is covered in the second year since September and October were used to organize activities and collect membership fees. Administrative costs for the 2 years of operation are shown in table 34.

Costs of administering the Cass County Rural Health Service appear to be fixed costs since the amounts spent in each of the 2 years are almost the same, $7,256.14 in 1942-43 and $7,302.35 in 1943-44. With the marked reduction in membership in the second year, per capita costs of administration rose from $0.69 in 1942-43 to $0.92 in 1943-44. Administrative costs comprised 6.1 percent of the total cost of the program in 1942-43 and 9.9 percent in 1943-44. The total cost of the program was $118,021.80, or about $50 per family, in 1942-43 and $74,104.18, or $42 per family in 1943-44. These amounts represented 50.8 percent of total charges submitted during the first year and 52.7 percent during the second year (table 34).

Table 34.- Amount and percent budgeted, charged, paid, and amount of deficit for each member family; and amount charged, amount paid, amount deficit and percent paid for the association, Cass County, Rural Health Service, by type of service, by fiscal year -- 1942-43 and 1943-44.

Type of service	For each member family							For the association			
	Budgeted		Charged		Paid		Amount of deficit	Amount charged	Amount paid	Amount of deficit	Amt. pd. as pct. of amt. chgd.
	Amt.	Pct.	Amt.	Pct.	Amt.	Pct.					
General practitioner											
1942-43 (2379 families)	$16.00	32.0	$48.93	50.1	$16.00	32.3	$32.93	$116,400.75	$38,064.00	$78,336.75	32.7
1943-44 (1769 families)	16.00	39.0	42.34	53.3	15.96	38.1	26.38	74,906.50	28,240.00	46,666.50	37.7
Surgeon-specialist											
1942-43	6.00	12.0	13.80	14.1	6.00	12.1	7.80	32,831.00	14274.00	18,557.00	43.5
1943-44	7.00	17.1	14.16	17.8	6.98	16.7	7.17	25,043.50	12,355.00	12,688.50	49.3
Hospital											
1942-43	10.00	20.0	12.15	12.4	10.00	20.2	2.15	28,912.50	23,790.00	5,122.50	82.3
1943-44	9.00	22.0	13.02	16.4	8.98	21.4	4.04	23,025.00	15,881.50	7,143.50	69.0
Dentist											
1942-43	7.00	14.0	6.99	7.2	6.99	14.1	0.00	16,625.01	16,625.01	0.00	57.2
1943-44	6.00	14.6	5.20	6.5	5.20	12.4	.00	9,197.00	9,197.00	.00	
Drugs											
1942-43	6.00	12.0	12.23	12.5	7.00	14.1	5.23	29,106.80	16,653.00	12,453.80	2/
1943-44	—1/	0.0	--	0.0	--	0.0	.00	0.00	0.00	.00	0.0
Nursing											
1942-43	2.00	4.0	0.57	.6	0.57	1.1	.00	1,359.65	1,359.65	.00	100.0
1943-44	—3/	.0	.64	.8	.64	1.5	.00	1,128.33	1,128.33	.00	100.0
Administration											
1942-43	3.00	6.0	3.05	3.1	3.05	6.1	.00	7,256.14	7,256.14	.00	100.0
1943-44	3.00	7.3	4.13	5.2	4.13	9.9	.00	7,302.35	7,302.35	.00	100.0
Total											
1942-43	50.00	100.0	97.72	100.0	49.61	100.0	48.11	232,491.85	118,021.80	114,470.05	50.8
1943-44	41.00	100.0	79.49	100.0	41.89	100.0	37.59	140,602.68	74,104.18	66,498.50	52.7

1/ Drugs were not included in the services during 1943-44.

2/ The deficit in drugs occurred in the 5-month period, September 1, 1942 through January 31, 1943, in which the association provided all drugs; beginning February 1, 1943, the association agreed to pay only 50 percent of the total drug charges, and paid in full on this basis for the remaining 7 months of the fiscal year.

3/ During the second year only $37,704.95 of the grant fund was used to match membership fees paid in; the surplus of $4,795.05 thus accruing was used to pay for public health nursing ($2,000) and additional administrative expense ($2,795.05).

Adequacy of Services

The amount and kinds of care actually received by the membership measure only the current effective demand for medical service. It is reasonable to suppose that families in the association might be less inhibited from use of available medical services than nonmember families. Such a differential, it is presumed, may be due partly to a minimizing of the money side through prepayment or to the effect of health education which might be expected to make members more health conscious than nonmembers are. However, it is apparent from data concerning the variation in use of services as outlined in previous pages, that certain segments or groups in the population either do not need medical service or do not take advantage of the available services.

It is impossible to appraise the Cass County Rural Health Service without consideration of standards of medical care. The adequacy with which the association has been discharging its responsibility can be given definite meaning only as it is compared with what most medical doctors consider to be good current medical practice. Therefore, as a basis of comparison, standards of adequate, scientific medical care as set forth by Lee and Jones in their study, "The Fundamentals of Good Medical Care," will be used. 45/

The Lee-Jones study attempts to set forth two main things:

(1) A statement of the functions which would represent a reasonable utilization of modern medical knowledge with an outline of the fundamental procedures involved in good current medical practice.

(2) The establishment of annual expectancy rates of the diseases and conditions for which medical care is required; and, upon the basis of these rates, the calculation or quantitative estimates of the services and the personnel and facilities required for the application of good current medical practice to all the people.

Modern medicine embraces in its scope the application of all branches of scientific knowledge to the promotion and preservation of health, and the prevention, diagnosis, and treatment of disease.

Lee and Jones define good medical care as "The kind of medicine practiced and taught by the recognized leaders of the medical profession at a given time or period of social, cultural, and professional development in a community or population group." 46/ The concept of good medical care employed in the Lee-Jones study is based upon certain "articles of faith" as follows:

(1) Good medical care is limited to the practice of rational medicine based upon medical sciences.

45/ Ibid. p. 3
46/ Ibid. p. 6

(2) Good medical care emphasizes prevention.

(3) Good medical care requires intelligent cooperation between the lay public and the practitioners of scientific medicine.

(4) Good medical care treats the individual as a whole.

(5) Good medical care maintains a close and continuing personal relationship between physician and patient.

(6) Good medical care is coordinated with social welfare work.

(7) Good medical care coordinates all types of medical services.

(8) Good medical care implies the application of all the necessary services of modern, scientific medicine with the needs of all the people. 47/

Discussing medical "need" and "demand," Lee and Jones point out that they are not necessarily the same. Demand for medical care is conditioned largely by economic factors and represents the medical care actually consumed. It is cultural in that popular beliefs concerning health and relative attractiveness of such substitutes as "irregular" healers and patent medicines play a great part in determining effective demand. 48/

The real need for medical care is a medical, not an economic, concept, say Lee-Jones:

"It can be defined only in terms of the physical conditions of the people and capacities of the science and arts in medicines to deal with them. Thus, it is not always a conscious need, still less an active desire backed by willingness to pay. The ordinary layman lacks the knowledge to define his own medical needs and can rely only on the expert opinion of the medical practitioners and public health authorities .....

"Such a technical definition of the need for medical care is valid only in a society which, like our own, believes in the desirability of health and the efficacy of scientific medicine in promoting and maintaining it. Against an entirely different social background, as for example, India, need would represent merely the expression of a narrow, professional opinion, and would bear no relation to the 'needs' of society. Since, however, modern America values health and has accepted the science and art of medicine as the proper instrument for its advancement, a definition of the need for medical care in the term of capacity of modern medicine would seem relevant and useful." 49/

47/ Ibid. pps. 7-10
48/ Ibid. p. 11.
49/ Ibid. p. 12.

The Cass County Rural Health Service has been organized so as to interfere as little as possible with the previous medical organization and methods of financing medical care. Medical services are provided by private practitioners who receive a remuneration on a fee-for-service basis. It thus conforms as closely as possible to the customs of medical care in the community.

As pointed out the amount and kinds of care actually received by the membership of the Cass County Rural Health Service measure only current effective demand for medical service. Through the prepayment method one important factor in medical care— the economic — has been reduced to its simplest terms in the payment of a family fee. But it would be expecting a miracle to look for an immediate and complete change to more adequate and effective medical care even if all the most modern, scientific medical care were readily available. People do not change overnight their customary habits and attitudes in such a fundamental thing as medical care. Some mothers still do not get hospital care at childbirth and a few families still use midwives. No doubt many patients do not seek medical and dental attention when they need it, even now. Undoubtedly, the preventive measures provided and demanded by members are still inadequate.

In order to get at the relative distance between present conditions and from true need of the membership population, it has been necessary to rely again on standards developed upon reasonable estimates of the minimum services required to provide the fundamentals of good medical care. With the intention of providing the necessary yardstick for the evaluation of the current receipt of medical care among members of the Cass County Rural Health Service and reasonable standards of the people's needs, recourse is made to the Lee-Jones study, "The Fundamentals of Good Medical Care." 50/

Using the rates of sickness found among the 403 persons in the sample survey of 91 member families (1943-44) as a base and applying these rates to the total number of persons covered in the membership it was possible to ascertain the total amount of illness and physical defects of the membership population for which medical attention was required in 1943-44. To these must be added the amount and kinds of unrecognized illnesses and of unrecognized defects, and of the needs for the prevention of disease. This total would approximate the true need for medical care.

The standards invoked here were developed from professional judgments of the numbers and types of services needed in the prevention of disease, in the correction of physical defects, and in the diagnosis and treatment of each common ailment. These standards predicate no specific form of medical organization and no differences for rural practice. In table 35 is summarized a comparison of the current receipt of and the estimated true need for medical care based on the morbidity experience of the 7,860 persons in the association during 1943-44.

50/ Lee and Jones, Op.Cit.

Table 35.- Medical services received and needed by members of Cass County Rural Health Service, by type of service, 1943-44.

Type of service	Services received per 1,000 persons	Services needed per 1,000 persons
All physician calls		
General practitioner	3,772	11,161
Consultant	----- 1/	258
Specialist	580 2/	2,865
Laboratory procedures	----- 1/	6,141
X-ray examinations and treatment	57	513
Days of hospital care	500	3,977
Nursing days	----- 1/	1,136
Attendant days		
Part-time	----- 1/	9,401
Full-time	----- 1/	1,294
Special treatments	----- 1/	570
Dental		
Dental services	750	4,933
Dental X-rays	29	1,353
Preventive		
Physician calls	----- 1/	807
X-rays	----- 1/	46
Immunizations	231	166
Laboratory procedures	----- 1/	2,389

1/ Data not available but little or none of the specified services are given.

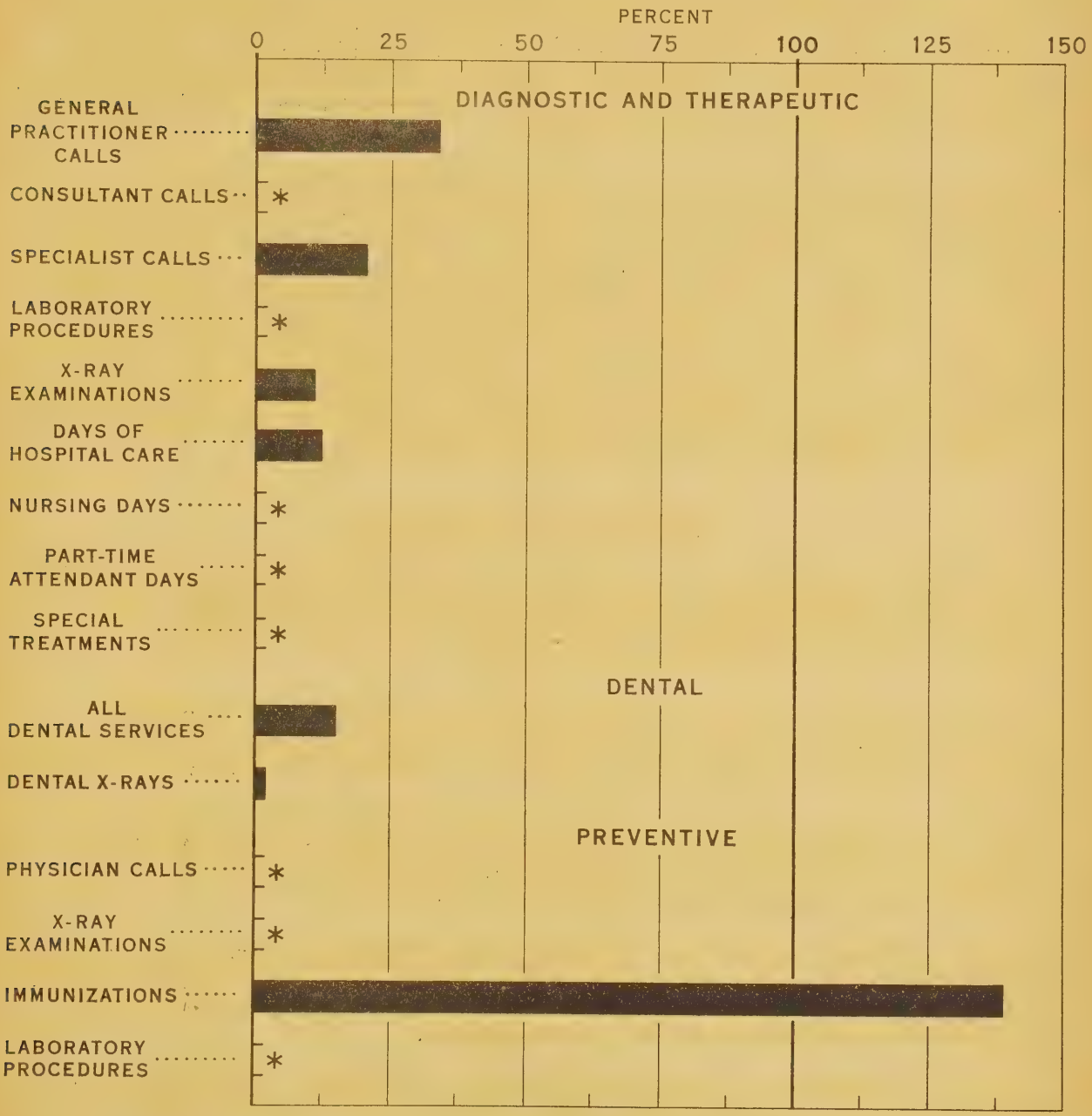
2/ Estimated on basis of surgical cases during 1943-44 multiplied by 5 specialist visits per case (4,555 specialist visits).

Source: Rates for services received computed from office records. Rates for services needed estimated from rates of incidence of illness computed from the records of the sample of 91 families (403 persons) between November 1, 1943, and October 31, 1944, and applying standards of diagnosis and treatment as set forth by Lee-Jones in "The Fundamentals of Good Medical Care."

A graphic presentation of the facts given in table 36 is given in figure 11. Each bar is representative of the estimated true need of each item of medical care. The blocked-in portion indicates the relative proportion of the total need in each item which was met during the second year's operation. For some items the statistical data are meager or nonexistent but the general conclusion based upon a careful apparaisal of these data is inescapable: Medical care purchased or otherwise received by the membership of the Cass County Rural Health Service is grossly inadequate in comparison with reasonable standards of good medical care defined in the light of available knowledge. This conclusion is not intended in the least to disparage the quantity or quality of medical care being given in the association but is stated with the keenest appreciation of the problems facing rural people and rural doctors in meeting the health needs of the people.

The study by Lee and Jones on which the criteria of services required in good medical practice are based is actually 15 years old. This is unfortunate. Nothing better is available to use as a benchmark, but it should be recognized that with advances in medical science many standards of optional care have necessarily changed. For example, with the advent of the sulfa drugs the number of physician's calls or hospital days required for management of a case of pneumonia is considerably less than before. There are other important illustrations. With regard to immunizations, on the other hand, new preventive procedures have been developed so that the actual number of immunizations now considered desirable is much greater than was the case 15 years ago. For example, immunization against whooping cough is now considered generally advisable for small children, whereas 15 years ago it was not recommended.

SPECIFIED SERVICES RECEIVED DURING 1943-44 BY MEMBERS OF CASS COUNTY RURAL HEALTH SERVICE, BY PERCENTAGE OF TOTAL NEED ACCORDING TO MEDICAL STANDARDS



SOURCE: BASED ON TABLE 36

* *DATA NOT AVAILABLE BUT LITTLE OR NONE OF THE SPECIFIED SERVICES WERE GIVEN DURING 1943-44*

U. S. DEPARTMENT OF AGRICULTURE NEG. 45286 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 11

WHAT CASS COUNTY PEOPLE KNOW AND THINK ABOUT THEIR RURAL HEALTH SERVICE

An association such as the Cass County Rural Health Service requires delegation of authority by members to elected and employed officials. Members, therefore, have a stake in becoming familiar with the duties of officials and in evaluating their capacities. Moreover, members and their neighbors would be expected to know something of what the association is attempting to do, and how it is going about the task.

For these and other reasons the officials of the association have some responsibility for conducting an educational program. Its effectiveness, as time passes, is indicated by the knowledge of farm families as to various aspects of their Health Service. With this in mind, a number of Cass County people--association members and nonmembers along with farmers who had never been members--were asked several questions about the medical care plan. A summary of the replies to these questions follows another series of questions attempted to ascertain opinions of Cass County people with respect to the Health Service. These opinions as reported by members, former members of the association, members of the board of directors, people who had never been members, physicians, and dentists are also summarized.

Knowledge of Health Program

With Respect to Purpose.- Very few Cass County people had a clear knowledge of just what their Health Service was attempting to do (table 36). This held for association members, former members, and farmers who had never been members, as well as for professional people.

To the question, "What is the purpose of the Health Service?" the most general reply was, in effect, that families would not be able to get medical care, particularly surgical operations, if it were not for the Health Service.

Next in number were replies based upon most farmers' fear of going into debt. One member illustrated this point of view when he said, "Before the association, a fellow, when he had to have an operation, would have to go out and borrow the money and then he was in debt."

Several expressed their views in terms of the feeling of security it gave them to know they could get a doctor when they needed one -- "peace of mind," they called it. "Why, it got so you couldn't get a doctor to come unless you had the money down," one farmer complained.

A few of the members saw the health program as insurance. "I think of it this way," said one farmer, "it's just like insurance to poor folks."

Readers will recall that the membership fee for a family joining the Health Service for 1943-44 was arrived at by taking 6 percent of the family's net cash income for 1942, with the exception that no family paid less than $12 and none more than $54. In view of this rather simple formula, it is

somewhat surprising that nearly half the members and former members, and considerably more than half the nonmembers, knew nothing of how membership fees were determined (table 37). These people obviously had no adequate basis for judging the fairness of family membership fees. In fact, 47 percent of the members did not know the amount of their membership fee for 1943-44. These facts indicate that people in the area have a tendency to accept and act according to the judgment of accepted leaders. More than likely, community leaders are among the "1 out of 5" members who had a clear knowledge of how membership fees were determined.

Table 36.- Percentage of members, former members, and nonmembers of Cass County, Rural Health Service, by extent of knowledge of program purpose and of how membership fees were determined, and by knowledge of governmental grants to the association, September - October 1944

Item	Members (N = 91)	Former Members (N = 55)	Never Members (N = 91)
	Percent	Percent	Percent
Knowledge of program purpose			
Clear	9.9	9.1	4.4
Poor	83.5	60.0	44.0
No knowledge	6.6	30.9	51.6
Total	100.0	100.0	100.0
Knowledge of how membership fees were determined			
Clear	20.9	12.7	3.3
Poor	35.1	38.2	30.8
No knowledge	44.0	49.1	65.9
Total	100.0	100.0	100.0
Know of Government grants to association	53.9	40.0	36.3

It is unfortunate that only half the members, and proportionately fewer former members and nonmembers, know that the Federal Government makes substantial grants to the Health Service (table 36). Out of such lack of information regarding the source of funds may arise false conceptions and misunderstandings relative to the cost of medical care. Some of these people, of course, may have known that the association had some kind of a grant but doubtless many thought that membership fees covered the full cost of medical care to the members.

With Respect to Services Offered.- Surprisingly enough, many members of the association did not know the medical care services to which they were entitled (table 37). Of course they did not take full advantage of them. One suspects, for example, that some tonsillectomies were postponed by

the 8.6 percent of members who did not know that they were entitled to surgery. Similarly, it is almost certain that needed dental work was not obtained by the 7.7 percent of members who did not know they were entitled to dentistry.

Table 37.- Percentage of Cass County, Rural Health Service members who did not know principal services to which they were entitled, by specified service, 1943-44

Service	Percent of members
Surgery	8.6
Dentistry	7.7
Hospitalization	6.6
General practitioner	2.2

With Respect to Management.- It was found that 78 percent of the members could not name a single person on the board of directors; 21 percent did not know the association had a board of directors; 55 percent could not name the treasruer-manager of the Health Service. Evidently member participation in the organizational features of their association was negligible and there is weakness in the educational and public-relations phases of the program.

Opinions of Members, Former Members, and Nonmembers

Pertaining to Program in General.- The people of Cass County, in general, were favorably impressed with the Rural Health Service. The vast majority of members and former members, as well as farmers who had never been members, considered the program to be a good thing for their families, their communities, and Cass County as a whole (table 38). Of the 13.2 percent of nonmembers, and the 9.1 percent of former members who replied that the health program is not a good thing for their families, many were families of only one and two persons. As family fees were based on income, regardless of number in family, these people probably thought they could save money by paying their medical bills personally.

In the opinion of members, health care obtained during 1943-44 was better than that received before they joined the association in 44.0 percent of the cases, poorer in 2.2 percent of the cases, and about the same in 53.8 percent of the cases. It was apparent from the answers that differences in quality of medical care was being considered in replying to the question. In the main, families simply meant that when they now saw a doctor he treated them in the same way as he would have treated them before the program began. Practically all members said people got more care than ever before.

Table 38.- Percentage of members, former members, and nonmembers, Cass County, Rural Health Service, who considered the health program either was or was not a good thing for their families, their communities, and Cass County, September - October 1944

Consider Health Service good thing for:	Members (N=91)	Former Members (N=55)	Never Members (N=91)
	Percent	Percent	Percent
His family			
Yes	96.7	89.1	81.3
No	3.3	9.1	13.2
No opinion	0.0	1.8	5.5
His community			
Yes	97.8	94.6	92.3
No	2.2	3.6	2.2
No opinion	.0	1.8	5.5
Cass County			
Yes	97.8	94.6	92.3
No	2.2	3.6	2.2
No opinion	.0	1.8	5.5

Pertaining to Specific Phase of Program.- Most members, despite limited knowledge, thought well of the services offered by the association and of the officials. A few did express an unfavorable opinion of physicians and dentists (table 39). Generally, these unfavorable opinions were rather vague. Two of the specific ones pertaining to physicians were "A Negro woman on my place died during childbirth before the doctor got to her" and "doctor gave me some medicine for my kidneys that almost killed me."

The one person who was willing to say why he had an unfavorable opinion of dentists said, "One of the dentists discriminates against members. He don't give us as good service as he does his private patients."

Table 39.- Opinions of Cass County, Rural Health Service members, by percentage of members favorable, unfavorable, or indifferent to specified services included in program during 1943-44

Service	Favorable	Unfavorable	No opinion	Total
	Percent	Percent	Percent	Percent
Physicians	93.4	3.3	3.3	100.0
Hospitals	86.8	0.0	13.2	100.0
Dentists	76.9	3.3	19.8	100.0
Treasurer-Manager	74.7	.9	25.3	100.0
Board of directors	61.5	.0	38.5	100.0

Most members of the association appeared to accept the idea of subsidy, without opposition. Sixty-eight percent of the members said that any difference in cost of program and amount collected from membership fees should be supplied by the federal Government.

Some members of the association thought that additional services should be included (table 40). Chief among unmet needs, as suggested, were drugs and eye service. As the Health Service supplied all or part of drugs the first year, the members naturally wanted the service continued.

"Perhaps doctors and patients abused the drug service a bit," a member would say now and then, in effect, "but it could and should be made to work, if they would just cooperate a little better.

Table 40.- Opinions of Cass County, Rural Health Service members by percent of members stating that additional specified services should be included in program, September - October 1944

Service	Percent of members
Drugs	25.3
Eye Examinations and glasses	20.9
Other	8.8
None	57.1

Very few members appeared to know that the Health Service would pay for eye examinations. The Health Service did not supply eye glasses. Members who thought the program should include the provision for eye examinations and glasses usually talked in terms of school children. Parents, in the opinion of many, would be likely to see that their children obtained proper cares of the eye if the service were part of the health program. A few members spoke of how such service would benefit old people. Some old folks need glasses, they said, but don't get them because of the expense.

Determining membership fees is a rather difficult problem confronting any group that launches a prepayment medical care plan. As fees in the Cass association had been computed on the basis of net income for 2 years, members were asked what they thought of the method. About half of them apparently were satisfied with the formula of arriving at fees on the basis of income only (table 41) but a substantial proportion of members thought the formula should be changed. Most of those favoring a change suggested that membership fees should be based on net income but should increase with the size of family.

Greatest Criticisms of Program.- After people in Cass County had been questioned relative to various phases of plan, they were asked to state their greatest criticism of the Health Service.

Table 41.- Opinions of Cass County, Rural Health Association members by percent of members stating that family fees should be determined in a specified manner, September - October 1944

Basis of determining family fee	Percent of members
Family income only	51.6
Family income, but increasing as size of family increases	40.7
Same for every family	1.1
Other	1.1
No opinion	5.5
Total	100.0

Proportionately more former members than members and nonmembers objected to some phase (table 42). This seems natural, for badly disgruntled members would not be likely to renew their membership. It does seem odd, however, that the greatest proportion of any group, 14 percent, raising the objection that "people take advantage of the program" should be among "never members." Obviously, they knew less about physician-patient relationships than members or former members: They probably knew that their member neighbors were obtaining increased medical care than before and they could have interpreted this fact as abuse of the program.

Table 42.- Greatest objection to Cass C ounty, Rural Health Service by percentage of members, former members, and nonmembers naming specified criticisms, September - October 1944

Greatest criticism	Members (N=91)	Former Members (N=55)	Never Members (N=91)
	Percent	Percent	Percent
People take advantage of it	4.4	9.1	14.3
Doesn't provide service wanted			
Drugs	5.5	7.3	0.0
Other 1/	0.0	5.5	.0
Fees too high	4.4	7.3	.0
Fees determined unfairly	.0	3.6	1.1
Doctors	3.3	9.1	2.2
Not enough dentists	2.2	0.0	.0
Other	2.2	1.8	3.3
None	78.0	56.4	79.1
Total	100.0	100.0	100.0

1/ Two wanted osteopaths included, 1 wanted association to pay full amount of bills for Texarkana physicians.

With 22.0 percent of association members, 43.6 percent of former members,

and 20.8 percent of the farmers who had never been members, objecting to some aspect of the Health Service, the educational and public-relations job of management looms large. The extent to which management is made aware of the desires and needs of members is largely dependent upon the articulateness of the membership or leaders. Often voices raised in protest or criticism may reflect unexpressed demands and needs.

Reasons for Not Joining.- Another method of ascertaining what, in the minds of Cass County people, were possible flaws or shortcomings of the Health Service was to ask former members and nonmembers, "Why are you and your family not members of the Rural Health Service this year?" Lack of money was the most prevalent answer by former members, and was the second most prevalent answer by farmers who had never been members (table 43). Assuming that this reason is valid, the program was not measuring up to one aspect of the purpose for which it was intended -- to provide adequate medical care to all farm people in Cass County at a price they can afford to pay. Evidently some families who were members in 1942-43 thought they could not continue in 1943-44 when the minimum fee was raised from $6 to $12. This, then, poses the problem of how to provide medical care for all the people regardless of financial circumstances.

Table 43.- Percentage of former members and percentage of nonmembers, Cass County, Rural Health Service, by specified reason for not joining association in 1943-44 1/

Reason	Former Members (N=91)	Never Members (N=91)
	Percent	Percent
Can't afford cost	41.8	12.1
Didn't have cash at time	5.5	3.3
Interested but just neglected to join	18.2	22.0
Just didn't join	5.4	4.4
Just not interested	0.0	11.0
Doing nonfarm work in 1943-44	9.1	0.0
Family fees determined unfairly	5.5	1.1
Can pay own medical bills 2/	.0	11.0
Dislike Government help	1.8	3.3
Discriminated against by physicians	5.5	.0
Drugs not supplied	3.6	.0
Application not accepted	.0	5.5
Didn't know enough about program	.0	5.5
Was not asked to join	.0	2.2
Other	3.6	18.6
Total	100.0	100.0

1/ Undetermined number of first year members not included in table had moved out of county.

2/ Inference that program is for lower income groups only.

As 18.2 percent of former members and 22.0 of nonmembers said they were interested but neglected to join, the importance of educational efforts in a voluntary plan became evident. The sales manager of an organization would say, "The program must be sold to the people. They must be asked to join."

Evidently, many people in the county do not know, or did not agree, that all farm families in Cass County were eligible for membership to the Health Service. Some appear to think of the program as a type of relief--for low-income families only. This may be inferred from the 11 percent of nonmembers who said they could pay their own medical bills (table 43).

Opinions of Board Members.- Members of the board of directors were favorable to, in fact were enthusiastic about, the Health Service. Many farm families, they said were obtaining better medical care than ever before. Several directors either stated explicitly or implied that the program was primarily for low-income people.

"The Rural Health Service," according to one board member, "is the greatest thing that has ever come our way for the low-income farmer."

"It is the best thing for poor people that the Government has done," said another.

Five of the seven board members said they believed the program could not be made self-supporting. (One board member was not interviewed) This does not take into account the possibility that certain higher income families might be asked to pay membership fees well in excess of the average annual cost. Many families, they said, could not pay the full amount of membership fee of $40 to $50, especially during ordinary times.

Opinions of Professional People

Physicians.- Opinions of participating physicians with respect to the Rural Health Service varied from warm approval to bitter opposition.

"More folks in Cass County are getting adequate medical care now than before the Health Service was organized," said one physician. "Many mothers who formerly had midwives at childbirth now have doctors. Naturally, I'm strongly in favor of the program."

"The Rural Health Service has been a failure," was the opposite point of view expressed by another physician. "I did all I could to help get the program started, but now I'll do anything I can to kill it."

Of the 11 physicians in Cass County who were cooperating with the association regularly, two were highly favorable to the plan, three moderately favorable, four moderately unfavorable, and two highly unfavorable. But opposition did not deter any Cass County physician from participating in the Health Service. Two of the doctors said they refused

to accept certain member patients at times. One member of the profession was frank in stating that he did not give the members the same consideration and quality of service as he gave to private patients.

One doctor was asked why he continued to take part in a program he opposed. "There is a sort of compulsion on me to do so," was his reply. "With so many farmers in the Health Service, my practice would suffer if I should drop out, while other physicians continue. Further, many of these farmers were patients of mine before the Health Service started, and I want to hold them now in order to have them as patients when the program ends."

Opposition was most emphatic concerning the relatively low percentage payment on general-practitioner bills. "Some people talk about this medical care plan being subsidized by the Government," said one physician. "The truth is that it is being subsidized by the doctors."

Other objections were raised with less feeling, in a more or less off-hand manner. Some doctors thought the service was abused by members, although seeing or calling a doctor when not necessary was less prevalent than at first. Others said that the plan is a step toward "socialized medicine," although they differed in their definition of that term. Most of the doctors said that the Health Service could not be made self-supporting but at the same time said that the program was not needed in Cass County.

"The Health Service is not a solution to anything," according to one physician. "The problem of medical care among low-income families has always been taken care of by individual doctors giving free treatment." Another physician suggested that most cases of need could be taken care of through charity.

Several doctors protested that there were many well-to-do farmers on the program — men who were well able to pay their own doctor bills — whereas they thought the program was designed primarily for low-income families. Evidently they were not thinking of the Health Service as an experimental plan for all farmers.

"Do you want me to tell you the greatest weakness of this association from the doctors' point of view?" questioned one physician. "It may appear like a little thing, but it is big to us. It is the fact that folks running the association don't ask our suggestions. We don't feel like we are in on things. This could be solved easily if the association board of directors would invite us to have at least one of our number attend board meetings as an adviser."

Such statements suggest the advisability of bringing lay people and professional personnel to understand fully what the Health Service has set out to do.

Dentists.- All participating dentists were highly favorable to the Health Service. One explanation may be found in the fact that their bills, in

contrast to bills submitted by physicians, were all paid in full during 1942-43 and 1943-44. The dentists gave some specific reasons why they were in favor of the association.

"The dental program is a good thing for rural people," in the opinion of one dentist, "because I can go ahead and do the things that need to be done, such as X-rays and treatments, without too much 'selling'."

"Folks in the health program are becoming 'dental wise'," observed another. "And if you ask me if there is need for such a program, the answer is 100 times Yes."

Some dentists said that while members might have abused the dental program somewhat at first, there was little or no abuse during the second year. There was general agreement that the average person just doesn't rush to a dentist's office, have him punch around his gums and grind on his teeth, unless the ordeal is necessary.

Druggists.- Druggists in Cass County were favorable to the health program in general. They were not pleased, of course, with the low-percentage payment record for drugs during the first 5 months of the 1942-43 fiscal year when the association was providing all drugs. The fifty-fifty arrangement for the other 7 months of the first year, whereby the association and the member each paid half the cost of drugs, was entirely satisfactory to the druggists.

In the opinion of druggists, members abused the drug phase of their program during the first 5 months by buying medicines excessively, but they thought buying decreased thereafter. If members were at fault then doctors must have been too for the druggists were supposed to supply medicine only according to prescriptions from participating physicians.

Druggists wanted to continue the arrangement for the second year but in view of reduced grant funds the board of directors decided to eliminate the payment for drugs. They reasoned that if members could be provided the other necessary medical care, they would somehow find a way to pay for drugs.

INTERPRETATIONS AND APPRAISAL

Practically all members and nonmembers, and a majority of the local professional people, generally agree that the Cass County Rural Health Service has provided to all eligible major income groups, (but more especially to farm families in the lower income brackets) more adequate medical service than they have had before. They also believe that, to some extent, there has been a more efficient utilization of available facilities for medical care. It is not clear as yet whether the association has made rural practice in Cass County more attractive to young doctors, nor is it clear whether additional hospital and similar facilities have been encouraged.

This experimental program has been eminently successful in providing information concerning a prepayment plan for medical care among farm people which will utilize existing medical institutions, personnel, and management, and will interfere as little as possible with previous relationships between patient and doctor.

It is now in order to make some further appraisals. Elements that should go into a satisfactory plan for bringing to rural people a better distribution of medical services were discussed at a conference sponsored by the Farm Foundation held at Chicago, April 11-13, 1944. At that time it was suggested that a ten-point standard of measurement be applied in sizing up any proposals or schemes for the redistribution of medical services or changes in the methods of paying for them. 51/ The ten points included: (1) coverage. (2) freedom, (3) unity, (4) area to be covered, (5) local responsibility, (6) supply of physicians, (7) preventive work, (8) paying for care, (9) paying the doctor, and (10) quality of care.

An analysis of the Cass County Rural Health Service in terms of the "ten-point measuring stick" suggested by Dr. Davis at that conference is here outlined, point by point.

Coverage - The association has made it possible for many people to obtain more adequate medical care than they received before, but in its 2 years of operation it has failed to attain complete coverage of either the rural population or the eligible farm population. Furthermore, a definite decrease in the proportion of population covered occurred in the second year.

51/ This ten-point standard was suggested by Michael Davis, Committee on Research in Medical Economics, New York, and may be found in Medical Care and Health Services for Rural People, "A Study Prepared as a Result of a Conference Held at Chicago, Illinois, April 11-13, 1944, Sponsored by the Farm Foundation," 600 South Michigan Avenue, Chicago, p. 76-8.

Membership coverage in terms of the total population of Cass County, declined from 35 percent in 1942-43 to 28 percent in 1943-44, while coverage in terms of the farm population declined from 52 percent in 1942-43 to 41 percent in 1943-44. Noticeable differences in coverage in terms of race, tenure, and medical trade area were found within the county. Proportionately more white persons were covered than Negroes. Apparently proportionately more owners than tenants were covered. Highest percentage of total farm population covered occurred in Atlanta medical trade area and lowest in Hughes Springs medical trade area.

The present membership includes an abnormally large proportion of persons in the younger and older age groups—groups with high expectancy rates of sickness. A high female sex ratio also contributes to high expectancy rates. In addition, the levels of general living conditions and sanitation among the majority of members are low, and this tends to increase morbidity rates.

Freedom.- The Cass County program maintains the customary ways of distributing medical services and allows the patient freedom to choose his physician, dentist, hospital, and--during the first year--his druggist. Such "freedom of choice" is traditional in the area but is conditioned by racial, cultural, economic, and geographic factors. Choice of sectarian healing practitioner is denied to members under terms of the agreement with medical doctors.

The physician and the dentist retain the freedom to accept or decline patients and professional persons have complete freedom to exercise professional judgment and responsibilities. Physicians have the choice of operating individually or in groups.

The right of persons to organize for the purpose of paying for medical care by bargaining with the professions has been preserved, and along with it the right of physicians, dentists, and druggists to accept individually or in a group the method by which they will be paid.

Unity.- By making possible a broader use of available medical services the association has contributed to the general welfare and to group unity. People of Cass County are less conscious than formerly of the existence of "poor man's medicine" or charity care but there is a tendency to look upon the Health Service as a "relief program" which is divisive in effect. Such a situation probably developed when Federal grants to the association were made through the Farm Security Administration, an agency which works primarily with low-income farmers. In addition, a few participating physicians belittle the program.

Evidences of a growing unity on problems of medical care can be found. Association membership crosses racial and class barriers and thus sponsors the idea of common need among all groups. The idea of separating farm population from the other rural population runs counter to most of the local thinking and the stipulation placed on the use of subsidy funds from

the Department of Agriculture thus seems arbitrary and seems somewhat indefensible in Cass County because of the extensive shifting from farm to nonfarm employment, and vice versa.

Area Covered.-- Cass County, with a normal population of about 30,000 and an area of 965 square miles, cannot be considered as a medical service area, in isolation. It is not now, nor can it be in the foreseeable future, self-contained so far as medical care is concerned. When considered from the standpoint of preventive medicine, its population cannot support all personnel required for community health preservation, and from the diagnostic and curative standpoint it must rely upon hospital and specialist facilities of a much wider area than encompassed by the county.

Local Responsibility. - The functional area is Cass County. The association was organized within the county by local leaders and is administered by a board of directors chosen locally by rural people. Hence, the Health Service retains complete local autonomy, although it receives financial assistance--Federal grants--from outside the county.

County physicians are organized into a professional society encompassing both Cass and Marion Counties, but for purposes of the agreement entered into between the association and doctors, the medical society functions on a single-county basis; that is, on the basis of Cass County only. Dentists and druggists likewise function on a county basis.

Local responsibility is interfered with by outside controls only where stipulations placed upon grant funds conflict with local practice, or where medical standards, as laid down by the State Medical Society are not met.

Paying for Care. - The plan through the use of Federal-grant funds, spreads the cost of medical care on a basis approaching ability to pay, thus easing for individual families the financial burdens of sickness. The patient pays for service in advance on the insurance principle of spreading risks.

Paying the Doctors. - The doctors charge for their services in the traditional fee-for-service way but they are paid from funds set aside for specified services which are prorated on a monthly basis. Payment may be in full or in part, depending upon the volume of services for which bills were submitted.

Quality of Care. - The quality of medical and dental care that existed in Cass County before the Health Service began operation has been maintained. The association has exercised no control thus far over the available supply of doctors, hospital facilities, or related personnel. It does not contemplate doing so in the future. Furthermore, it has no control over standards of medical care and in no way has group medical practice been sponsored or encouraged. The provision of more care, frequently earlier in the onset of a disease or condition, is actually tantamount to a higher quality of care than was received previously.

Problems

Eligibility for Membership. - The question arises whether it is desirable to place restrictions on membership which tend to divide the rural population of the county. Certainly "agricultural" and "nonagricultural" seem poor criteria by which to separate members from nonmembers and there is some question as to the advisability of confining the membership principally to low-income families. As has been pointed out, the range in incomes is narrow in this county and the county is occupationally homogeneous.

It must be recognized that to most people, both lay and professional, the Health Service has become a "poor man's association." This idea has not been generally discouraged or disabused, and so has become relatively fixed in the minds of the people.

The situation calls for an immediate reappraisal of the objectives of the health program, and a definite clarification of policy, in terms of families to be included. The fact that a few upper-income families belong, even now, should make the decision easier. Most of these farmers rationalize their membership in various ways.

On the basis of the analysis during the first and second years of operation it is believed that the health program would be advanced if membership were thrown open to all families in Cass County, or in the medical trade areas of the county, as has recently been done in the case of two other county health associations (Newton County, Miss. and Walton County, Ga.). But by so doing the association might incur the opposition of most of the physicians and dentists, so it is questionable whether this move could be accomplished successfully. Of course, the alternative is to confine membership primarily to families who are unable to pay their medical bills. Obviously, if this policy is followed a substantial subsidy will be required.

Services. - The tendency during the 2 years has been to reduce the range of services offered and to place some barriers to the use of others. Drugs have been eliminated and eye examinations have been restricted. The number of hospital days paid for during any one year for any one patient has been cut from 21 to 14, and hospital confinement at childbirth has been shortened. Apparently these moves have been justified as a means of cutting down the costs of the program. Certainly the preceding analysis gives no indication that the amount and quality of medical care given to members is above the standards of good medical care; consequently such reductions in services seem ill-advised. Of course, the high cost of complete medical services enters into the final decision as to feasibility of the plan in general, but such economic consideration should not detract from an evaluation of true medical need and the steps which might be taken to meet it. The program must advance not alone along an economic front but along a medical front as well.

There would be enthusiasm among the people if the association could proceed at once to expand the services offered to include eye service (including eye refractions and glasses), dentures, more adequate hospital and clinic care, increased nursing service, and other health measures now demanded under modern conditions.

Quality of Care. - There is little or no evidence to indicate that the association has concerned itself with raising the quality of medical care. Emphasis during the first 2 years seems to have been on collecting membership fees and paying professional people and hospitals. Medical supervision has been almost nonexistent, for the professional committees merely passed upon bills, ignoring medical problems and consultations. There has been no attempt to determine need for, and to provide, additional doctors and no attempt to improve facilities. Competition between doctors in the county, in some cases, is unusually sharp; little has been done to ameliorate this situation. Group consultation is at a minimum and group practice has not been encouraged. Hospitals and clinics in the county are small and are privately owned by the physicians who operate them. Obviously, under such conditions some hospitals may not be adequately equipped or staffed, and they may not be equally available to local physicians. Moreover, continuity of hospital service is likely to be disturbed by death, retirement, or transfer of owner-physicians. Such conditions are likely to limit and impair the quality of medical care for the community.

Although disease and accident are highly personal and individual, many of the causes of the impairment of health are social. Any program for betterment of rural health in Cass County should consider not only the diagnosis and treatment of disease in individuals, but preventive care as well. Preventive care, of course, includes immunizations, social case work, public health nursing, periodic health examinations, health education, better nutrition, improved environmental sanitation, diagnostic tests for latent illness such as the use of X-rays, serological tests for syphilis, stool examinations and other measures.

It is just as essential to know the causes of, and if possible to prevent, diseases as it is to know what to do for them. Furthermore, the payment for medical care is only one factor among many which influence the distribution of medical services. Some of the influences are likely to be cultural and geographic.

The natural interlocking of all public and private agencies serving rural people should be acknowledged, and their responsibilities and contributions should be coordinated. Some steps that the association could take to improve the quality of medical care among its members are as follows:

(1) Appointment by the board of directors, or by the medical society, of a professional committee which shall be given the duty of determining the standards of medical care under which professional personnel shall operate and the way in which the attainment of them shall be implemented.

(2) Appointment by the board of directors of a committee to study and recommend improvements in the system of hospital care within Cass County and the relationship of Cass County hospitals to the larger hospitals at Texarkana, Shreveport, and Dallas.

(3) Appointment by the board of directors of a committee to study the needs, and manner of meeting them, in regard to additional physicians, dentists, and medical facilities in the several communities of Cass County. This committee, or the one suggested previously, could properly attempt to secure surplus medical equipment which is now becoming available from the War Department.

(4) Appointment by the board of directors of an educational committee which shall concern itself principally with education and research co-ordination. This committee could well include the county agricultural and home agents, farm and home supervisors, the superintendent of schools, the director of public welfare, the supervising public health nurse, leading ministers, and other county leaders.

(5) Finally, the association might carefully consider the possibility of mobilizing local support for a broad health program. This can be done by stimulating public discussion and thought on vital problems and issues. Use of periodic newsletters, neighborhood discussion groups, lectures, and even demonstrations should be relied upon.

Relationships of Association Officials and Professional Personnel. - There are some indications that professional personnel and association officials could well attain a closer working relationship. Some physicians, for example, said that they knew very little about association affairs and would really like to discuss the program with board members. Thus, the board of directors might, to their mutual advantage, suggest to participating physicians and dentists that a joint meeting be held about twice each year. Frank discussion should enable each group to see and to appreciate some of the problems encountered by the other, and should make for better working relationships and for a more effective health service.

Financing the Program. - The first thing most people ask about the program is: "What does it cost?" or "Where does the money come from?" Those who conceived the experimental health program believed that a subsidy was necessary. Experience during 2 years in Cass County has confirmed this belief. The general conclusion is inescapable: Most rural families in Cass County cannot pay for adequate medical care from 6 percent of their net income alone, even by group prepayment; apparently the needs of the group considered medically, are too great for Cass County rural families to handle alone.

If adequate medical care is to be provided for these people one of three courses of action must be followed: (1) Outside subsidy funds must be provided, or (2) charges for medical care to Cass County farm families must be reduced, or (3) a program of nationwide compulsory health insurance in-

clusive of farm people must be developed. During its first 2 years the Health Service received a total of $138,850 in Federal grants. In addition, medical bills submitted to the association during these years were scaled down by $180,968.55. 52/ To some extent this reduction in actual cost to member families (membership fees) is illusory. It is generally agreed that more people are getting more care than ever before, which means the total medical bill of these families has actually risen. Much of the care given during the 2 years might never have been given but for the Health Service.

Most members appear little concerned as to the source of subsidy grants. The sample survey revealed almost no opposition to subsidy grants from the Federal Government.

In interviews with professional persons cooperating in the program, the most often-voiced criticism was to the effect that it did not pay enough to the doctors and dentists. Some doctors objected to having their bills scaled down by the association. Apparently it would be to mutual advantage and good feeling, if the physicians and the board of directors would come to an understanding on how costs of medical care to the association can be reduced and how the implication that the association does not pay its bills in full can be removed.

Total bills submitted for services to members for medical care decreased from $97.72 per family in 1942-43 to $79.48 per family in 1943-44. This, of course, reflected the reduction in the physicians' charges and in services offered under the plan. Experience of 2 years in Cass County suggests that according to present charges the total cost of medical care--including general practitioner care, surgeon-specialist care, dental care, hospital care, drugs, and eye care--will approximate $100 per family, with minor economies included.

Using such a figure, it is possible to speculate on the total cost of medical care if all farm families of Cass County used medical service comparable to those now used by the membership of the Cass County Rural Health Service. The 4,404 farm families would have been expected to pay a total medical bill of $440,400 as their part of the expense of these bills. Such an amount is equivalent to about one-third the total cash income 53/ from farming in 1939 in Cass County, according to the Census. It is not probable, therefore, that such an amount is being spent annually, or could be afforded, by farm families of Cass County. This may indicate that member families have had more service in all categories than is received by the general farm population.

52/ Differences between total charges of physicians, surgeons, dentists, hospitals, druggists, nurses, and administration, and amount paid by the association from Federal grant funds and membership fees.

53/ Secured by subtracting the value of farm products used at home from the total value of farm products sold or traded in 1939.

Could the Cass County Rural Health Service be made self-supporting? There is consensus among local laymen and professional people that a substantial proportion of farm families in the county could not pay a membership fee of $40 to $50, especially during ordinary times. According to the method of financing the program in 1943-44, the maximum membership fee of $54 (and few families paid that) was very little more than the $41 per family budgeted for payment of bills. Hence, for the program to become self-supporting while maintaining the "ability to pay" principle, it would be necessary to raise the maximum fee considerably, and to recruit a large number of members from the upper income brackets. This would be difficult, if not impossible, to do in Cass County. It might be possible to maintain a self-supporting medical care plan for families within the middle and upper income groups but families that fall within the lower income class would almost certainly be left out.

Method of Determining Membership Fees. - Ability to pay was the announced principle by which family membership fees were determined. The formula, by which families pay 6 percent of their net cash income with no family paying less than $12 and none more than $54, fails in some respects to achieve the purpose for which it was intended. Consider, for example, the low minimum fee of $12. It is entirely conceivable that some families, such as aged couples whose sole income is from old-age assistance, cannot afford to pay $12--they must either reduce their already low level of living to pay the fee or stay out of the program. In the latter case, they may deny themselves needed medical care, or it must be provided through the charity of physicians, or some public agency with special arrangements at the time of each illness.

Now consider the maximum fee of $54, above which the principle of ability to pay does not operate. Some families, no doubt, are able to pay more. How much more, if any, should they be required to pay? First, it appears that families who are able to do so should pay the full amount budgeted for a family. Perhaps they should pay more; if they do, they would be contributing to families in the association who were unable to pay the full cost of their medical care. This is essentially the principle followed by physicians in private practice.

There is another point at which the principle of ability to pay works imperfectly. As family fees are based on net cash income, the method works to the advantage of farmers who produce abundantly for home consumption, but to the disadvantage of farmers who do not. A farm laborer or nonfarm worker who earns $600 a year in wages would pay $36, 6 percent of $600, on his membership fee. Yet a farm operator who produces products valued at $600 for home use would include no part of the amount in computing his membership fee. It seems only fair, therefore, that farm laborers--and nonfarmers if the program should be extended to include them--should be given an exemption equivalent to the value of products produced for home consumption by farm operators. The alternative, of course, would be to include products used at home in computing fees.

The methods of arriving at net family cash income when determining membership fees is another problem. Farmers in Cass County, as a rule, do not keep business records so when they report net cash income they must resort to memory. It is easy enough for them to recall sales and prices of major products, like cotton, but difficult for them to remember lesser items such as milk, butter, poultry, and eggs. Hence, many net incomes may have been reported somewhat lower than the actual.

Method of Paying the Doctor. - In this experimental medical care program, it has not been demonstrated that the traditional fee-for-service way of paying doctors is the best method. Although the doctors bill the association monthly for each service to members, the payment of these bills is scaled down, if necessary, according to the funds allocated for the month. Thus, regardless of the volume of services performed by doctors in any one month, collectively they are paid only to the extent of funds budgeted for that month. Under such a system, a doctor may be prone to run patients through his office in a mass-production, perfunctory manner, on the theory that he must see a large number of patients in order to collect his share of the money.

Education. - Knowledge of the association is essential to a general understanding of its purpose and function. The survey of members indicated a lack of elementary knowledge about the program. Health education should be considered an integral part of the general plan so educational programs are necessary for its fulfillment. Finally, under any voluntary plan of organization--such as the Health Service--it is important that a continuing and intensive educational campaign be fostered to maintain and extend membership.

How can this necessary job be done? First, it demands close cooperation between all community organizations and an intelligent coordination of each agency's personnel and facilities. Channeling of information through home demonstration clubs, 4-H clubs, schools, and churches, for example, is one way of tackling the problem. Encouragement of all efforts that aim to improve the level of living--such as Victory Gardens, canning, nutrition, and better housing--is another facet of the many-sided job. Community schools might serve as centers for disseminating information, through reading material, motion pictures, demonstrations, and lectures. Weekly items about health in local papers are another means of getting the problems of health before the public. Certainly it would be money well spent if the association issued a regular newsletter containing, besides items of information and other items, a discussion of some vital health problem.

Management. - "The manager's job," said one member of the board of directors, "is to keep the books and pay the bills." This board member evidently thought of the manager primarily as a bookkeeper and clerk. Such a conception is not in harmony with the by-laws, which state that one duty of the manager is "to cause— (not to keep himself) --accurate

books to be kept of the business of the association." 54/

If the Health Service is to be a vital, continuing force in providing medical care and health education to members, its directing head should be a manager in the full sense of the word, and not merely a clerk. Obviously, considerable managerial ability would be required to carry out the recommendations in this report pertaining to an educational program. The same is true for other aspects of the association program such as maintaining working relationships with various agencies.

It is not easy, of course, to obtain and hold a qualified manager for a health plan which is not assured operating funds for more than 1 year. Qualifications for the position, however, should obviously include training in medical economics and public health. His is a professional job, hence he should have professional training for this particular type of work.

Limiting Legislation. - As the Texas Cooperative Marketing Act includes no provisions for chartering cooperative hospitals and medical care associations, the Cass County Rural Health Service is chartered as an educational, charitable, and benevolent association. Thus, the health program is operating under the false impression that it is serving charitable purposes only. Although the membership is comprised mostly of low-income groups, all farmers are eligible. Certainly it would have been better if the association could have been incorporated as a cooperative. This situation, no doubt, indicates some needed State legislation.

54/ By-laws of the Cass County Rural Health Service, Article VII, Section 4.

APPENDIX

Method

Field data upon which this study is based were gathered in Cass County, Texas, during September and October 1944. Sources of information were as follows:

1. Minutes of the Cass County Agricultural Planning Committee and its successor, the Cass County Agricultural Victory Council.

2. Records of the Cass County Rural Health Service, including the following: (a.) Official documents such, for example, as articles of incorporation and by-laws along with agreements between the association and professional groups, (b.) minutes of meetings of the association's board of directors, and (c.) ledgers, financial statements, and member applications.

3. Interviews with the following: (a.) Health Service members, former members, and farmers (or their wives) who had never been members, (b.) employed and elected officials of the association, (c.) physicians and dentists participating in the program, and (d.) agricultural, public health, and other agency representatives.

A rather complete schedule was filled out for each member family interviewed. A shorter and more simplified interview guide was used both for former members and for farmers who had never been members. No schedules were used in connection with other interviews but a general outline was followed to assure coverage of pertinent points in all cases.

Other sources of information included the Census, vital statistics, and considerable bibliographical material. Publications of the Committee on the Costs of Medical Care were especially helpful as a source of standards by which to measure various aspects of the Cass County Health plan.

A sample of about 5 percent of the members was drawn from ledger sheets for all members, stratified by race. Every twentieth name was selected, after the starting number between 1 and 20 had been drawn at random. Of the original 91 cases selected, 72 were interviewed--79.1 percent. When a member could not be located, usually because he had moved out of the county, the name following his on the ledger was selected.

The 91 families in the member sample were compared with all families comprising the membership with respect to residence by section of county, number in family, amount of membership fee, and race. Residence by section of county was ascertained by assigning members to one of the three sections according to rural mail routes. The distribution of the sample did not depart noticeably from that of the total membership with respect to any of the measures used. Sample member families, therefore, were considered to be representative of all member families.

Table 44.- Number and percentage of all member families, number and percentage of sample families in Cass County Rural Health Service, by sections of county, by number in family, by amount of membership fee, and by race, 1943-44

	All families		Families in sample	
	Number	Percent	Number	Percent
Section of County				
East	778	44.0	37	40.7
Central	807	45.7	41	45.0
West	180	10.3	13	14.3
Total	1/ 1,765	100.0	91	100.0
Chi-square=1.61, df=2, P=46 percent				
Number in family				
2 or less	368	20.8	16	17.6
3 or 4	679	38.4	34	37.3
5 or 6	408	23.0	26	28.6
More than 6	314	17.8	15	16.5
Total	1,769	100.0	91	100.0
Chi-square=1.31, df=3, P=74 percent				
Membership fee				
Under $15	658	37.2	31	34.1
$15.00 - $19.99	497	28.1	29	31.8
$20 or more	614	34.7	31	34.1
Total	1,769	100.0	91	100.0
Chi-square=0.69, df=2, P=74 percent				
Race 2/				
White	1,362	77.0	71	78.0
Negro	407	23.0	20	22.0
Total	1,769	100.0	91	100.0

1/ Does not include four families whose location is unknown.
2/ Membership was stratified by race for selection of sample, hence it was not necessary to compute Chi-square.

When field work for the study was started, ledger sheets for 1942-43 members were in Washington where certain data were being entered on punch cards. Thus, it was not possible to use ledger sheets as a source for selecting a 5-percent sample from the 1,100 former members, as was done in selecting the sample of members. By matching 1942-43 and 1943-44 duplicate membership receipts, however, it was possible to select an exact list of former members. The name appearing on every twentieth former-member receipt was selected, after the first number between 1 and 20 had been drawn at random. As race was not designated on receipts,

the sample of former members was not stratified by race. Lack of available data pertaining to their characteristics makes it impossible to compare the universe of former members with the sample of former members with respect to traits such as race and tenure, for example. But the method of selection should have assured a representative sample of former members. By race, the sample was 73 percent white and 27 percent Negro; by tenure, it was 51 percent owner, 31 percent tenant, and 18 percent nonfarm. The relatively high proportion of former members in the nonfarm group is indicative of the large number of rural people in Cass County who were employed at the Texarkana ordnance plant, but who continued to live in the county.

For each association member interviewed, a farmer (or his wife) who had never been a member was interviewed. This sample of 91 "never-members" was selected by taking the nonmember family living nearest to the member family interviewed, in the direction the interviewer was driving. It was assumed that the method would yield a sample with characteristics similar to those of all Cass County farm people who had never been members of the Health Service. Obviously, it would be very difficult to ascertain the characteristics of this universe, hence, no comparisons of the sample and the population were attempted. It is believed, however, that this sample, although containing a higher proportion of Negroes than the member sample, is overweighted with whites. There is also a possibility that the sample, like the membership, is overweighted with people from the eastern and the central parts of the county. By race, the sample was 74 percent white and 26 percent Negro; by tenure, it was 51 percent owner, 38 percent tenant, and 11 percent other. The "other" category was composed mostly of people who were living in the country but were not farming at the time.

Table 13.-Rates per 1,000 persons of specified general practitioner services received by members of the Cass County Rural Health Service, by months, average monthly service and annual service - 1942-43 and 1943-44

Item	Sept. 1/	Oct. 1/	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Average monthly service	Annual service
Total persons served: 2/														
1942-43	127.1	180.0	183.5	168.2	197.8	148.6	157.6	144.4	142.9	150.1	167.1	168.2	161.1	1,934.7
1943-44	165.8	163.3	137.6	177.1	210.6	160.7	166.2	157.0	147.9	146.3	165.1	184.6	165.0	1,979.6
New cases for month: 3/														
1942-43	127.1	161.2	165.8	145.0	171.0	127.2	133.3	113.3	117.5	125.6	131.7	137.4	137.9	1,655.5
1943-44	140.8	137.3	137.6	161.9	194.0	140.0	142.4	132.2	122.7	121.3	138.4	153.9	143.4	1,720.5
Total calls:														
1942-43	233.5	305.2	280.8	246.9	315.9	231.0	249.9	241.4	267.3	266.1	307.5	316.0	271.8	3,262.8
1943-44	320.1	340.4	251.4	322.4	387.0	312.6	340.7	303.1	280.9	278.4	301.5	337.4	314.3	3,771.5
Office calls:														
1942-43	216.3	274.8	247.8	221.4	272.7	198.8	211.0	209.7	229.2	234.8	267.7	282.5	238.9	2,868.0
1943-44	296.7	310.1	216.1	259.4	317.1	259.4	302.1	266.4	239.7	256.2	275.2	316.1	275.9	3,310.2
Home calls:														
1942-43	17.2	17.7	13.7	16.6	26.6	19.3	24.2	16.0	15.6	16.1	16.2	14.6	17.8	213.8
1943-44	16.7	16.8	20.7	41.0	37.7	27.3	24.3	19.5	22.1	15.9	16.9	14.1	22.7	272.8
Day:														
1942-43	14.3	14.0	11.5	13.1	22.3	15.1	19.2	12.0	12.3	12.5	13.4	11.7	14.3	171.3
1943-44	12.9	11.8	16.8	34.6	28.3	21.4	19.8	15.2	14.9	12.1	12.7	11.3	17.6	211.5
Night:														
1942-43	2.9	3.7	2.2	3.5	4.3	4.2	5.0	4.0	3.3	3.6	2.8	2.9	3.5	42.5
1943-44	3.8	5.0	3.9	6.4	9.4	5.9	4.5	4.3	7.2	3.8	4.2	2.8	5.1	61.3
Hospital calls:														
1942-43	0.0	12.7	19.3	8.9	16.6	12.9	14.7	15.7	22.5	15.2	23.6	18.9	15.1	181.0
1943-44	6.7	13.5	14.6	22.0	32.2	25.9	14.3	17.2	19.1	6.3	9.4	7.2	15.7	188.5

1/ Data for September and October during the second year of operation are for the year 1944, the service having lapsed for 2 months (Sept. and Oct. 1943) between the first and second years.

2/ Figures include new cases, cases carried over from one month to the next; and are cumulative by separate cases of illness for each person, and by different practitioner serving each case.

3/ New cases cumulative by separate illness for each person.

continued

Table 43. Rates per 1,000 persons of specified general practitioner services received by members of the Cass County Rural Health Service, by months, average monthly service and annual service - 1942-43 and 1943-44 (continued)

Item	Sept. 1/	Oct. 1/	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Average monthly service	Annual service
Deliveries:														
1942-43	2.0	1.5	1.1	2.5	1.7	1.8	1.3	2.3	0.7	0.8	1.4	1.8	1.6	18.7
1943-44	2.1	1.8	2.0	3.4	3.4	1.8	1.5	2.0	1.9	1.0	1.6	2.3	2.1	24.8
Minor operations:														
1942-43	1.0	0.9	0.5	1.9	1.9	1.0	1.5	0.5	1.0	0.4	1.4	0.8	1.0	12.5
1943-44	1.6	1.3	.9	0.2	0.8	0.5	0.5	0.8	0.1	1.4	2.1	2.6	1.1	13.1

1/ Data for September and October during the second year of operation are for the year 1944, the service having lapsed for 2 months (Sept. and Oct. 1943) between the first and second years.

2/ Figures include new cases, cases carried over from one month to the next; and are cumulative by separate cases of illness for each person, and by different practitioner serving each case.

3/ New cases cumulative by separate illness for each person.

Source: Based on office records of Cass County Rural Health Service.

Table 46.-Rates per 1,000 persons of specified surgery for members of Cass County Rural Health Service, by months, average monthly service, and annual service - 1942-43 and 1943-44

Item	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Average monthly service	Annual service
Total persons served 2/														
1942-43	9.1	7.7	9.5	4.3	5.9	4.0	3.3	5.1	4.9	4.2	8.2	13.5	6.6	79.5
1943-44	8.9	9.6	4.1	6.5	6.5	4.7	5.8	4.9	3.7	3.6	7.4	11.4	6.4	76.8
New cases for month 3/														
1942-43	9.1	7.2	9.0	3.6	5.1	3.3	3.1	3.9	4.7	4.0	6.3	12.2	5.9	71.2
1943-44	8.8	9.2	4.1	6.0	6.1	4.6	5.6	4.6	3.6	3.6	7.2	11.1	6.2	74.3
Tonsillectomies:														
1942-43	7.2	3.8	6.5	2.5	1.9	1.8	1.6	3.0	1.6	1.5	3.9	7.0	5.7	42.4
1943-44	5.1	3.2	1.4	1.7	1.0	1.3	2.1	2.0	0.4	1.0	3.1	7.0	2.4	29.3
Appendectomies														
1942-43	0.5	1.4	1.0	0.8	1.0	0.7	0.7	0.6	1.4	0.8	1.4	2.9	1.1	11.0
1943-44	1.2	1.0	1.0	.8	2.4	1.3	1.2	.6	.6	.8	1.0	1.3	1.1	13.4
Fractures														
1942-43	.2	0.3	0.0	.0	0.4	.5	.1	.0	.0	.1	0.6	0.7	0.2	2.9
1943-44	.0	.6	.2	.2	.6	.4	.5	.5	.6	.1	.3	1.3	.4	4.3
Gynecological														
1942-43	.6	.5	.8	.6	.9	.5	.4	1.0	.3	.9	.7	.5	.6	7.6
1943-44	.2	.9	.5	1.2	.6	.6	.5	.8	.5	.2	.6	.5	.6	7.0
Other 1942-43	.7	1.5	1.4	.2	1.7	.3	.4	.5	.4	.8	1.5	2.5	1.0	11.7
1943-44	2.4	3.9	1.4	2.6	1.8	1.7	1.6	1.1	1.6	1.5	2.3	2.4	2.0	24.0

1/ Data for September and October during the second year of operation are for the year 1944, the service having lapsed for 2 months (Sept. and Oct. 1943) between the first and second years.

2/ Figures include new cases, cases carried over from one month to the next; and are cumulative by separate cases of surgery for each person, and by different surgeons serving each case.

3/ New cases cumulative by separate operations for each person.

Source: Based on office records of Cass County Rural Health Service.

Table 47.-Rate per 1,000 persons of hospital services received by members of Cass County Rural Health Service, by months, average monthly service, and annual service - 1942-43 and 1943-44

Item	Sept. 1/	Oct. 1/	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Average monthly service	Annual service
Total persons served														
1942-43	11.8	14.8	14.7	9.7	12.0	9.5	8.6	11.4	9.2	7.9	13.2	16.1	11.5	138.7
1943-44	12.2	15.3	10.3	15.6	15.0	13.7	14.9	13.5	9.4	12.3	12.7	15.6	13.3	160.1
Total new commissions														
1942-43	11.8	14.8	14.7	9.3	11.2	8.2	8.1	10.0	8.0	7.1	11.5	14.5	10.8	129.0
1943-44	11.2	14.0	10.3	12.9	13.8	12.5	13.9	12.5	10.2	10.9	12.3	15.2	12.3	147.8
Days of hospitalization:														
1942-43	34.8	44.7	57.9	35.1	45.9	37.8	30.3	39.2	33.1	31.4	49.6	60.0	41.6	499.9
1943-44	39.9	42.1	37.4	50.2	60.2	50.1	34.8	31.3	38.5	23.7	39.0	44.8	40.9	491.2
X-Ray														
1942-43	0.7	6.7	3.4	2.6	3.2	2.3	4.1	3.6	3.9	2.5	3.7	3.5	3.3	40.1
1943-44	3.0	5.2	5.3	5.6	4.5	5.4	6.1	5.6	3.8	5.6	4.8	2.4	4.8	57.4

1/ Data for September and October during the second year of operation are for the year 1944, the service having lapsed for 2 months (Sept. and Oct. 1943) between the first and second years.

Source: Based on office records of Cass County Rural Health Service.

Table 48.-Rate per 1,000 persons of specified dental services received by members of Cass County Rural Health Service, by months, average monthly service, and annual service - 1942-43 and 1943-44

Item	Sept. 1/	Oct. 1/	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Average monthly service	Annual service
Total persons served														
1942-43	24.9	36.7	37.8	27.5	25.3	23.2	23.7	25.0	20.2	15.8	26.0	26.5	26.0	311.6
1943-44	26.3	26.4	14.8	9.6	17.6	25.6	18.7	17.9	21.8	17.4	17.2	21.1	19.9	238.4
New cases for month														
1942-43	24.9	33.4	31.8	22.2	19.2	18.0	16.2	15.4	14.2	12.4	17.8	20.5	20.3	245.8
1943-44	19.9	18.3	14.8	8.2	14.9	22.4	22.1	14.5	15.9	13.1	12.8	17.3	15.9	191.2
Total extractions														
1942-43	87.0	101.2	102.9	46.4	52.4	44.6	45.0	53.9	38.8	31.8	47.1	49.8	59.0	708.4
1943-44	70.5	66.8	42.0	22.6	32.8	43.7	41.2	32.9	52.9	33.2	38.1	39.7	43.0	516.4
Number persons														
1942-43	18.4	25.9	26.7	17.3	16.0	13.7	16.6	16.8	13.7	10.8	16.6	14.9	17.3	207.3
1943-44	17.2	7.3	9.7	7.1	11.6	14.2	14.2	12.0	15.4	11.4	12.5	13.8	12.2	146.6
Total fillings														
1942-43	20.9	40.5	25.8	22.4	24.9	23.2	22.8	22.7	16.2	12.6	22.6	25.8	23.4	280.2
1943-44	16.7	24.2	10.9	7.5	12.3	22.9	16.4	15.3	15.5	12.4	13.4	15.0	15.2	182.8
Number persons														
1942-43	5.4	14.2	11.8	9.9	9.6	9.1	9.0	8.1	6.2	4.6	8.9	10.1	8.9	107.0
1943-44	7.8	8.8	4.8	2.8	5.2	10.2	7.6	6.0	7.0	5.1	5.6	5.7	6.4	76.7

1/ Data for September and October during the second year of operation are for the year 1944, the service having lapsed for 2 months (Sept. and Oct. 1943) between the first and second years.

Continued.

Table 48.-Rate per 1,000 persons of specified dental services received by members of Cass County Rural Health Service, by months, average monthly service, and annual service - 1942-43 and 1943-44 - Continued

Item	Sept. 1/	Oct. 1/	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Average monthly service	Annual service
Total peridental treatments														
1942-43	2.7	6.4	3.8	2.9	3.9	3.0	2.2	3.1	2.6	2.7	4.0	6.9	3.7	44.3
1943-44	4.9	4.8	2.1	1.2	3.1	9.3	5.6	4.1	3.2	5.4	3.9	2.6	4.2	50.5
Number persons														
1942-43	1.0	4.7	3.8	2.8	3.7	2.8	2.2	3.0	2.6	2.0	3.7	5.1	3.1	37.5
1943-44	4.0	4.1	2.1	1.0	2.8	8.6	3.9	3.5	2.7	3.1	1.7	2.2	3.3	40.2
X-Ray														
1942-43	1.6	1.4	0.6	0.9	1.2	0.8	1.1	1.8	1.8	1.5	1.8	3.8	1.5	18.2
1943-44	2.1	5.3	2.5	1.0	1.8	3.6	0.5	1.0	2.4	2.0	2.4	3.9	2.4	28.8

1/ Data for September and October during the second year of operation are for the year 1944, the service having lapsed for 2 months (Sept. and Oct. 1943) between the first and second years.

Source: Based on office records of Cass County Rural Health Service.

Table 49.-Drug prescriptions filled per 1,000 persons by months, average monthly service, and annual service, Cass County Rural Health Service - 1942-43

Item	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Average monthly service	Annual service
Persons served	130.1	150.4	130.2	125.4	137.9	93.9	93.2	86.4	82.5	78.3	101.6	98.8	108.9	1,307.2
Number prescriptions filled	330.7	339.3	295.6	290.4	373.1	239.3	220.7	209.8	182.2	180.6	236.9	221.4	259.8	3,117.5

CHRONOLOGY OF THE DEVELOPMENT OF THE CASS COUNTY RURAL HEALTH SERVICE

Planning and Education

March 23, 1941 - Cass County Agricultural Planning Committee appointed a subcommittee to arrange a meeting at which health problems and conditions might be discussed by the entire committee.

April 19, 1941 - Cass County Agricultural Planning Committee held a meeting spotlighting health. Statements pertaining to health conditions and services were presented by representatives of the county health unit, Farm Security Administration, Texas Welfare Agency, Selective Service Board, public schools, AAA committee, and Agricultural Extension Service. At the conclusion of the meeting the committee made the following recommendations: (1) That the County Agricultural Planning Committee foster and sponsor "any health program available or that might become available" in the interest of the rural families; (2) that the Texas Food Standard be explained and the leaflets distributed; (3) that the committee assist in every way possible with the hot-lunch program in the county's schools; (4) that the committee assist in securing more grist mills for the communities whereby more whole-grain products may be used at home.

March 4, 1942 - Assistant State Extension Service agent and the Regional Medical Officer for the Farm Security Administration conferred with members of the Cass County Medical Association and were assured of a favorable attitude toward the proposed health service plan. Later the County Extension agent discussed the plan with the chairman of the Cass County Agricultural Planning Committee and a county meeting was called for March 10, 1942.

March 10, 1942 - Cass County Agricultural Planning Committee met to discuss the prepayment plan for medical care. The discussion was led by the Assistant State Extension Service agent. Motion was made and carried for the committee to sponsor the proposed health association. A subcommittee on organization, consisting of seven members, was appointed.

March 19, 1942 - Subcommittee on Organization of the Cass County Agricultural Planning Committee prepared inventory sheet for applicants. It was recommended that O. E. McGilvray, a local man, be appointed as organizer until the organization was completed.

March 23, 1942 - Cass County Agricultural Planning Committee met to consider more details of the proposed health association. A local leader, chairman of the subcommittee, covered the following points in a statement to the group: (1) Success of the organization depends entirely upon local farm leaders, (2) local community committees were suggested as effective means of organizing the people, (3) these local community committees are advised to solicit assistance of preachers, teachers, business men, and other leaders, and (4) it was suggested that no one be paid for assisting in the organization campaign.

March 13, 1942 - Cass County Agricultural Workers Association considered the proposed health plan. The plan was presented by the chairman of the subcommittee on organization of the County Agricultural Planning Committee. Agricultural workers voted to assist in the organization work. A committee of two members of the Agricultural Planning Committee and one member of the Agricultural Workers Association were elected to work out an organizational program.

April 7, 1942 - Subcommittee on Organization discussed the difficulty of securing a State Charter. It was recommended that consultation be carried on with the Regional Attorney, Office of the Solicitor, relative to charter procedure.

It was decided to furnish the Medical Society of Cass County with a list of families designating their choice of physician.

The subcommittee turned "thumbs down" on an out-of-county organizer and asked that a local citizen be considered for the position.

May 7, 1942 - Cass County Agricultural Planning Committee discussed progress in the organization work, along with other business.

July 9, 1942 - Cass County Agricultural Victory Council (Successor to Cass County Agricultural Planning Committee) requested the chairman of the subcommittee on organization to review briefly the steps taken in the organization of the health association.

The Victory Council and neighborhood leaders were vested with responsibility to assist applicants in making out income inventories and to collect fees.

June 2, 1942 - Incorporation of the Cass County Rural Health Service.

June 8, 1942 - First meeting of incorporators, directors, and members. Elected officers for 1942-43. Caused copy of charter to be entered in minute book. Adopted By-Laws and empowered the president and treasurer to receive the grant from the Government.

July 3, 1942 - Board of directors met and employed manager at $175 per month effective July 1, 1942.

July 16, 1942 - Professional groups and directors met to draw up agreements between professional gro ps and the Cass County Rural Health Service.

August 13, 1942 - Professional group met and agreed on charges for professional services.

August 31, 1942 - Board of directors met, set closing date for receiving members as September 15, 1942. Agreed to pay all bills of members beginning September 1.

September 1, 1942 - The Cass County Rural Health Service begins its first year of operation.

Operation

November 28, 1942 - Board of directors met, appointed committee to review medical bills, and likewise a committee to review dental bills.

January 22, 1943 - Board of directors met, resolved to reduce payment on drugs from 100 percent to 50 percent, starting February 1, 1943.

March 4, 1943 - Board of directors met, discussed membership fees for 1943-44, resolved to raise minimum fee from $6 to $12.

March 10, 1943 - Board of directors met, heard a report from the manager on health conference which he attended in Cincinnati, Ohio. A committee was appointed to review applications for 1943-44.

June 23, 1943 - Board of directors met, at which time Dr. Fred Mott, United States Public Health Service, Washington D. C., reviewed status of rural health services in the United States. A general discussion followed.

August 30, 1943 - First year's operation ends.

October 6, 1943 - Special meeting of board of directors. Set date of annual meeting as October 29, 1943. Authorized and empowered treasurer to obtain the grant for the second year's operation.

October 29, 1943 - Annual meeting of members.

November 1, 1943 - Second year's operation begins.

November 3, 1943 - Board of directors met, elected officers for 1943-44, appointed an advisory committee to the board of directors, changed hospitalization from 21 days to 14 days, reappointed O. E. McGilvray as treasurer-manager.

December 10, 1943 - Board of directors met, authorized opening bank account.

January 26, 1944 - Advisory committee to the board of directors met, transferred funds to a nursing fund and set up a contingent fund.

June 17, 1944 - Called meeting of the board of directors. Audit of the association's books was requested.

Undated - Board of directors met, accepted audit without discussion, rescinded act of November 3, 1943 raising the secretary-treasurer's salary, from $200 to $250 per month, and raised bookkeeper's salary from $150 to $175 per month.

September 7, 1944 - Board of directors met, accepted budget for 1944-45, and requested Federal government grant of $45,000 for the third year's operation.

October 31, 1944 - Second year's operation ends.

CERTIFIED COPY OF CHARTER

ARTICLES OF INCORPORATION

OF THE

CASS COUNTY RURAL HEALTH SERVICE

STATE OF TEXAS ◊
◊ SS.
COUNTY OF CASS ◊

KNOW ALL MEN BY THESE PRESENTS:

That we, the undersigned, all citizens of the State of Texas, under (Article 1302 (2) of the Revised Civil Statutes of Texas) and by virtue of the laws of the State of Texas, do hereby form and incorporate ourselves into a voluntary association under the terms and conditions hereinafter set forth as follows:

ARTICLE I

The name of this Association shall be CASS COUNTY RURAL HEALTH SERVICE.

ARTICLE II

The principal office of this Association shall be in Linden, CASS COUNTY, TEXAS.

ARTICLE III

This association does not contemplate pecuniary gain or profit to the members thereof and the objects and purposes for which it is formed are benevolent and charitable, more especially as follows:

(a) To engage in any activity involving or relating to the securing for persons who are farm owners, share croppers, farm laborers, or persons, who when last employed, obtained a major portion of their livelihood from agricultural, horticultural, viticultural, forestry, dairy, livestock, poultry, bee or farm operations, the families of such persons residing with them and dependent upon them for support, and other persons of the household of such persons residing with them and dependent upon them for support hereinafter referred to as farm owners and workers, of medical surgical, and dental

treatment or services, any drugs, nursing, necessary or convenient thereto, and to the performing of any activity not in conflict with the laws of the State of Texas, or any State in which this Association shall qualify to do business, which will promote the health of farmers and agricultural workers, including the financing of any such activities, and in strict accordance with health plans promulgated by the United States Department of Agriculture or other Federal agencies.

(b) To receive gifts and to borrow from the Farm Security Administration of the United States Department of Agriculture or any federal or state agency or any other source or sources, money, goods, or services necessary or convenient to the accomplishment of the purposes of this Association, and to draw, make, accept, endorse, execute, and issue promissory notes, drafts, bills of exchange, warrants, bonds, debentures, and other negotiable and non-negotiable instruments and evidences of indebtedness, and to pledge, mortgage, or otherwise convey any of its property as security therefor in any manner permitted by law, and to make provisions for the payment of and to pay bills for services rendered and supplies furnished to farmers and agricultural workers by physicians and dentists duly licensed to practice medicine or dentistry in the State of Texas or in such other states in which this Association is qualified to do business or by other individuals or corporations rendering services to or supplying property to farmers and agricultural workers, such provision for payment to be made upon the terms and conditions set forth in the By-Laws.

(c) To acquire, hold, own, and exercise all rights of ownership in, and to sell, transfer or pledge shares of the capital stock or bonds, or become a member or stockholder of any corporation or Association.

(d) To lease, acquire by gift or bequest, buy, hold, own and exercise all privileges of ownership over such real or personal property as may be necessary or convenient for the conduct and operation of any of the business of this Association, and to cooperate with any public or private agencies whatsoever in the making, purchase, construction, equipment, operation, maintenance and supervision of any undertaking of this Association designed to effectuate any of the purposes set forth herein.

(e) To establish reserves and to invest the funds thereof in stock and bonds of any corporation or in such other property as the Board of Directors may deem satisfactory.

(f) To have and exercise all powers, provisions and rights conferred on benevolent, charitable and educational organizations by the laws of this State and all other powers and rights incidental to carrying out the purposes for which this Association is formed, except such as are inconsistent with the express provisions of the act under which this Association is incorporated.

(g) The foregoing shall be construed both as objects and powers and the enumeration thereof shall not be held to limit or restrict in any manner the general powers conferred upon this Association by the laws of the State of Texas, all of which are hereby expressly claimed.

ARTICLE IV

The term for which this Association is to exist is fifty (50) years.

ARTICLE V

The private property of the members of this Association shall not be subject to the payment of corporate debts.

ARTICLE VI

The business of the Association shall be transacted by seven (7) directors, who shall be elected annually by the members at the annual meeting of the Association. The following named members are hereby declared to be directors and shall serve until their successors are elected and qualified in accordance with the By-Laws of the Association:

NAME	ADDRESS
1. Frank W. Thompson	Douglassville, Texas
2. T. C. Lyster	Naples, Texas

3.	Mrs. G. G. Shelton	Hughes Springs, Texas
4.	J. J. Walker	Route 3, Linden, Texas
5.	Mrs. R. P. Brabham	Bryans Mill, Texas
6.	J. B. McLeod	McLeod, Texas
7.	R. L. Little	Hughes Springs, Texas

ARTICLE VII

Section 1. This Association shall have no capital stock, and consequently no dividends, and no profit shall be used to further the charitable and benevolent purpose for which it is created and said Corporation owns no property of any kind.

Section 2. The persons signing these Articles of Incorporation shall be deemed members of the Association immediately upon the completion of its organization, and new members may be admitted to membership in this Association under the terms and conditions of the By-Laws. Membership in this Association shall be evidenced by certificate of membership which shall be provided for in the By-Laws, such certificate of membership shall not be assignable or transferable except as provided in the By-Laws.

IN WITNESS HEREOF, we, the incorporators, and named herein as the First Board of Directors, set our hands this the 28 day of May, 1942.

/s/ Frank W. Thompson

/s/ Mrs. R. P. Brabham

/s/ J. B. McLeod

/s/ J. J. Walker

/s/ T. C. Lyster

/s/ R. L. Little

/s/ Mrs. G. G. Shelton

STATE OF TEXAS)
COUNTY OF CASS)

BEFORE ME, the under signed authority, on this day personally appeared Frank W. Thompson, R. L. Little, T. C. Lyster, Mrs. R. P. Brabham, J. J. Walker, J. B. Mcleod, and Mrs. G. G. Shelton, each of whom is known to me to be the person whose name is subscribed to the foregoing instrument and each acknowledged to me that he executed the same for the purposes and consideration therein expressed.

In testimony whereof, I hereunto subscribe my name and affix the seal of my office this the 28 day of May, 1942.

/s/ Lillian Nelson
Notary Public in and for
Cass County, Texas

My Commission expires: 6-1-1943

BY-LAWS

OF

CASS COUNTY RURAL HEALTH SERVICE

ARTICLE I.

Name and Location

Section 1. The name of this Association is Cass County Rural Health Service.

Section 2. The principal office of this Association shall be located at Linden, in the County of Cass, State of Texas.

ARTICLE II.

Fiscal Year

Section 1. The fiscal year of this Association shall begin on the first day of _____ of each year.

ARTICLE III.

Seal

Section 1. The seal of this Association shall have inscribed thereon its name, the year of its organization, and the word "Texas," and shall be in the exclusive custody of the Secretary-Treasurer.

ARTICLE IV.

Membership

Section 1. Qualifications for Membership. The holders of the membership certificate of this Association shall be its members. The incorporators of the Association shall be deemed members thereof immediately upon the completion of the organization of this Association. This Association shall admit as members only persons who are engaged in agricultural pursuits and who reside in the territory to be serviced by this Association and who are approved for membership by the Board of Directors of the Association.

Section 2. Application. Any eligible person may apply for membership on an application form prescribed by the Board of Directors, which shall set forth the applicant's name and the age and sex of each of the applicant's dependents. Such application shall provide that the applicant

is familiar with the Articles of Incorporation and the By-Laws and that he subscribes to the same and all agreements made pursuant thereto, and will abide by them. (Each member shall pay the annual assessment to be levied by the Board of Directors to cover cost of service to be rendered each member and his family as provided for in these By-Laws.)

Section 3. Assessments. Each member shall pay annual assessments to be levied by the Board of Directors to cover the cost of services to be rendered each member and his family. The Assessments shall be computed by the Board of Directors on the basis of the net annual income of the member and his family, provided that no assessment shall be less than $12.00 per year.

Section 4. Records of Members. A record of the members, their full names and addresses, ages and occupations at the time of admission in the Association shall be kept by the secretary-treasurer. Each member shall notify the secretary-treasurer immediately of any change in his address.

Section 5. Termination of Membership. (a) If a member moves from the territory served by the Association, or fails to pay any membership fees or assessments within thirty days after they become due, his membership may be terminated by a majority vote of the entire Board of Directors. Any person desiring to withdraw from membership may do so by surrendering to the secretary-treasurer his membership certificate which shall thereupon be cancelled, and his name shall be stricken from the membership rolls of this Association. In the event that a withdrawing member loses his membership certificate, his name shall be stricken from the membership rolls notwithstanding his failure to surrender his certificate. No refund of any fees except as may be authorized by the board of directors shall be made to any person who voluntarily withdraws from the membership for any reason other than for the reason of his moving from the territory serviced by the Association.

(b) In the event of the death or adjudication as an imcompetent of any member of this Association, the deceased or incompetent member's family may continue to receive the medical care to which the deceased or incompetent member and his family would have been entitled for the remainder of the period for which the deceased or incompetent member shall have paid assessments or other fees for medical care. However, the Board of Directors may, upon application by such persons as the Board of Directors shall recognize as the heir, executor, administrator, or guardian of the deceased or incompetent member may have paid to the Association on assessments levied and which are unused as of the date of such application. Unless such refund is made, the Board of Directors may transfer the deceased or incompetent member's membership certificate to the surviving spouse of the deceased member or the spouse of the incompetent member, as the case may be, or if there is no such spouse, to such person as the Board of Directors shall recognize as the head of the deceased or incompetent member's family. In the event the Board of Directors (a) makes the refund referred to herein or (b) does not transfer the deceased or incompetent

member's membership certificate as provided for herein, it shall be the duty of the Board of Directors, immediately upon the making of such refund or within sixty days after the expiration of the period for which the deceased or incompetent member shall have paid assessments or other fees for medical care, to cancel the deceased or incompetent member's membership certificate.

(c) Any member who fails to comply with the provisions of the Articles of Incorporation and By-Laws of this Association and such other rules and regulations as may be adopted by the Board of Directors for the operations of the Association or who fails to cooperate in the purposes and objects of this Association or who acts contrary to the best interests of this Association may be expelled from the Association by the members upon recommendation of the Board of Directors, provided that such member is given written notice by the Board of Directors of the charges and an opportunity to appear in his own defense before the next regular or special meeting of the Association following the Director's meeting at which such recommendation shall have been made, and provided that such recommendations are approved by a majority vote of the members present at such meeting. Thereupon his membership certificate becomes null and void.

(d) Except as provided for in paragraphs (a), (b), and (c) of this section, any person whose membership is terminated for any reason shall be entitled to a refund of any monies which he has paid to the Association on assessments levied and which are unused as of the date of the determination of his membership.

Section 6. Transfer of Membership. No certificate of membership shall be assignable or transferable otherwise than as herein specifically provided; and every certificate issued shall bear on its face the words "NOT TRANSFERABLE except in accordance with the provisions of section 5, Article IV of the By-Laws of this Association".

ARTICLE V.

Meetings

Section 1. Regular Membership Meetings. The control of this Association shall be vested in the membership in meetings assembled. Regular membership meetings of this Association shall be held annually on the _____ day of _____ of each year, or the day following if the designated day is a legal holiday, and at such time and place as may be determined by the Board of Directors and specified in the call to meeting. Each of such meetings shall be known as the annual meeting. Notice of each annual meeting shall be given by the secretary-treasurer of this Association by mailing or delivering written notice to each member of record at his address as it appears upon the records of the Association at least five days prior to the date of such meeting. Such notice shall state the time and place of the meeting.

Section 2. Special Membership Meetings. Special meetings of the members may be called at any time by action of the Board of Directors, and such meetings must be called whenever a petition for such meeting is signed by at least ten percent (10%) of the members and presented to the secretary-treasurer or to the Board of Directors.

Notice of such meeting, containing a statement of the purposes thereof, shall be given by the secretary-treasurer of this Association by mailing or delivering written notice thereof to each member of record at his address as it appears upon the records of the Association, at least five days prior to the date of such meeting. Such notice shall state the time and place of the meeting, and the business to come before it. No business shall be transacted at any special meeting other than that specified in the notice of the meeting.

Section 3. Quorum. A majority or 100 (one-hundred) of the members of this Association, whichever shall be less, shall constitute a quorum for the transaction of business and no business shall be transacted unless such quorum shall be present when a vote is taken. If, however, such quorum shall not be present at any regular or special meeting, a majority of the members present shall have power to adjourn the meeting from time to time without notice other than announcement at the meeting until a quorum shall be present. At such adjourned meeting at which a quorum shall be present, any business may be transacted which might have been transacted at the meeting as originally called.

Section 4. Order of Business. All meetings of the Association shall be governed by Robert's "Rules of Order" (Revised). The order of business at all membership meetings shall include as far as applicable:

1. Roll Call.
2. Proof of due notice and determination of quorum.
3. Reading and disposal of any unapproved minutes.
4. Nominations for vacancies on the Board of Directors.
5. Report of Board of Directors by President or Vice President.
6. Report of Secretary.
7. Report of Treasurer.
8. Report of General Manager.
9. Reports of Committees.

10. Unfinished business.

11. New business.

12. Elections.

13. Adjournment.

Section 5. Voting Rights. Each member shall have one vote and only one vote on all occasions and there shall be no voting by proxy or by mail. Elections of Directors shall be by ballot. Voting on all other matters shall be by show of hands, unless the majority of members present shall decide to vote by ballot.

ARTICLE VI.

Directors

Section 1. Functions of the Board of Directors. The business of this Association shall be directed by a Board of seven (7) Directors, all of whom shall be members of the Association. Its functions shall include the (a) selection of, and delegation of authority to, management; (b) determination of policies for guidance of management; (c) control of expenditures by authorizing budgets; (d) keeping of members fully informed on the business of the Association; (e) causing audits to be made at least once each year or oftener, and reports thereof to be made directly to the Board; (f) studying the requirements of members and promoting good membership relations; and (g) prescribing the forms of contracts between the members and the Association.

Section 2. Election and Term of the Directors. The directors named in the Articles of Incorporation shall manage and direct the affairs of this Association until the first annual meeting of this Association. At the first annual meeting, and at each regular meeting thereafter, the members of this Association shall elect seven (7) Directors, each for a term of one year.

Section 3. Election of Officers. Within ten (10) days after each annual meeting of the members, the Board of Directors shall elect by ballot from among their own number, a president and a vice-president. They shall also elect a secretary-treasurer who need not be a member of the Association. The term of office of each officer shall be for one year or until his successor is elected and qualified. In addition to the officers provided for herein, the Board of Directors may contract for the services of a manager or a general manager and may fix his compensation and other terms and conditions of employment. The manager or general manager shall not be a member of the Board. The Board may appoint and remove such other officers, attorneys, and agents as it may deem necessary to conduct the business of the Association. Such appointees need not be members of the Association and shall not be members of the Board of Directors nor members of their families.

Section 4. Meetings of the Board of Directors. Regular meetings of the Board of Directors shall be held at such time and place and at such regular intervals as may be prescribed by resolution adopted from time to time by the Board of Directors. Special meetings of the Board may be called by the president, or by the vice-president if the president is unable or neglects or refuses to call a meeting when requested by any other member of the Board. Should both the president and vice-president be unable or neglect or refuse to call a meeting of the Board, any two members of the Board may call such meeting. Notice of all regular and special meetings of the Board shall be given to each Director by the secretary-treasurer of the Association by mailing or delivering a written notice to him at his last known post office address at least three (3) days prior to the date fixed for such meeting, setting forth the time, place and purpose of the meeting. Three directors shall constitute a quorum for a meeting of the Board. At any meeting at which every member of the Board shall be present, although held without notice, any business may be transacted which might have been transacted if notice of such meeting had been duly given.

Section 5. Powers of the Board. The Board of Directors shall have general power to act for the Association in any manner not prohibited by statute, by the Articles of Incorporation, or by the By-Laws in the direction of the affairs of the Association. If the Association shall at any time borrow or receive by way of grant any property from the United States, through any of the agencies of the United States, the Board of Directors shall adopt and pursue such control and accounting methods and cause such audits to be made as shall be prescribed by such agency.

Section 6. Committees. The Board of Directors may, by resolution or resolutions passed by a majority of the whole Board, designate one or more committees, which shall function in an advisory capacity and shall report to the Board of Directors, but such committees shall not exercise any of the powers of the Board.

Section 7. Vacancies on the Board. If the office of any Director becomes vacant by reason of death, resignation, retirement, disqualification, or otherwise except by removal from office, a majority of the remaining directors, though less than a quorum, shall choose a successor, who shall hold office until the next regular meeting of the Association, at which time the members shall elect a Director for the unexpired term or terms, provided that in the call of such regular meeting a notice of such election shall be given.

Section 8. Removal of Directors and Officers. Any Director or officer may be removed from office in the following manner: Any member may bring charges against any Director or officer by filing them in writing with the secretary of the Association, together with a petition signed by ten percent of the members, requesting the removal of the Director or officer in question. Such removal shall be voted upon at the next regular or special meeting of the members and shall be effective if approved by a vote of a majority of the members present at such meeting. The Director

or officer against whom such charges have been brought shall be informed in writing of such charges five days prior to the meeting and shall have the opportunity at such meeting to be heard in person or by counsel and to present witnesses; and the person or persons bringing such charges against him shall have the same opportunity. If the removal of the Director is approved, such action shall also vacate any other office held by the removed Director in the Association. A vacancy in the Board thus created shall immediately be filled by a vote of a majority of the members present and voting at such meeting. A vacancy in any office thus created shall be filled by the Directors from among their number so constituted after the vacancy in such Board has been filled.

Section 9. Compensation of Directors and Officers. The Directors, the president and vice-president shall serve without compensation. The secretary-treasurer may be paid a reasonable sum as determined by the Board of Directors for the actual time spent on the business of the Association and for any expense incurred thereby.

ARTICLE VII.

Officers

Section 1. Duties of the President. The president shall preside at all meetings of the members and of the Board of Directors; he shall execute membership certificates, notes, bonds, mortgages, contracts and all other instruments on behalf of the Association; he shall be ex-officio a member of all standing committees; and he shall have such powers and perform such other duties as may be properly required of him by the Board of Directors.

Section 2. Duties of the Vice-President. The vice-president shall, in the absence of the president or disability of the president, or in the event of his death, resignation, or removal from office, perform the duties and exercise the powers of the president, and shall have such other powers and perform such other duties as the Board of Directors shall prescribe.

Section 3. Duties of the Secretary-Treasurer. The secretary-treasurer shall keep a complete record of all meetings of the Association and of the Board of Directors and shall have general charge and supervision of the books and records of the association. He shall have custody of and faithfully keep all monies of the Association and shall perform such duties with respect to the finances of the Association as may be prescribed by the Board of Directors. He shall give a bond, conditioned upon faithful performance of his duties in such amount and with such surety or sureties as the Board of Directors may require, the cost thereof to be paid by the Association. He shall sign all membership certificates with the president and such other papers pertaining to the Association as he may be authorized or directed to do by the Board of Directors. He shall serve all notices required by law and by these By-Laws and shall make a full report of all matters and business pertaining to his office to the members at the annual meeting. In the event that the secretary-treasurer shall be unable, refuse or neglect to serve such notices or prepare such papers, any member of the

Board of Directors or any officer of the Association may serve such notices or prepare such papers. He shall keep the corporate seal and the membership records of the Association and affix such corporate seal to all such papers requiring the seal. He shall make all reports required by law and shall perform such other duties as may be required of him by the Board of Directors.

Section 4. Duties of the Manager or General Manager. The duties of the Manager or General Manager shall be: (a) to have charge of the direct management of the Association's business in accordance with the instructions of the Board of Directors and under supervision of the Board; (b) to engage and discharge the employees of the Association subordinate to him in accordance with authority given by the Board of Directors; (c) to cause accurate books to be kept of the business of the Association and to submit the same together with all files, records, inventories and other information pertaining thereto for inspection at any time by the Board of Directors or by auditors appointed by the Board; (d) to give aid, advice, and recommendations to the Board in the preparation of budgets and to furnish to the Board once a month a statement in writing of the condition of the Association's business and submit a report on the management at the regular meeting of the members; (e) to assist the Board in formulating policies and to attend to such other duties and offices as the Board of Directors may require.

Section 5. Absence of Officers. In case of the absence or inability of any officer or officers of the Association to act, or any person herein authorized to act in his place, the Board of Directors may, from time to time delegate, for the time being, the powers or duties, or any of them, of such officer to any other officer or to any directors.

Section 6. Bonds. The secretary-treasurer, manager and other officers, or employees, having the custody of funds or goods of the Association, shall each give or execute a fidelity bond in favor of the Association, in such sum and with such surety or sureties as shall be satisfactory to the Board of Directors.

ARTICLE VIII.

Medical Care

Section 1. Eligibility for Medical Care. Subject to the provisions of Section 3 of Article VIII of these By-Laws, each member and his family shall be entitled to receive medical care and other benefits provided by this Association. The word "family" as used in these By-Laws shall include all persons residing with the member and all persons substantially dependent upon the member for support. Members of this Association and their respective families shall be eligible for medical care only after applying therefor on the form prescribed by the Board of Directors. An eligibility card shall be issued to each applicant whose application is approved by the Board of Directors or by a representative or agent authorized by the Board of Directors to approve such applications. Each eligibility card shall be signed by the person issuing same.

Section 2. Eligibility Cards. Each eligibility card shall be countersigned by the member to whom it is issued and shall be in such form as may be prescribed by the Board of Directors, provided that it shall set forth, among other things, the name of the member and of each member of his family who is eligible for medical care, the period for which such member and his family are eligible to receive medical care, and shall bear on its face the following statement, or statements substantially similar thereto:

a. "This eligibility card is issued subject to the provisions contained in the Articles of Incorporation and By-Laws of this Association and to the rules and regulations adopted by the Board of Directors of this Association."

b. "This eligibility card may not be transferred or assigned or otherwise disposed of."

Section 3. Medical Care not Guaranteed. (a) This Association does not guarantee that any hospital, physician, surgeon, dentist, or druggist with whom it may enter into agreement to render services to its members and their respective families will perform such services, and its only obligation in the event of a breach of such agreement by any hospital, physician, surgeon, dentist, or druggist shall be to use its best efforts to obtain the needed services from another source.

(b) This Association shall not be liable for any sort of omission or commission on the part of any hospital, physician, surgeon, dentist, or druggist or any other person with whom it may enter into agreement to render services to its respective members and their families.

ARTICLE IX

Surplus Funds

In the event this Association shall have any surplus funds remaining at the end of any fiscal year after paying all its obligations, such funds shall be retained by the Association for use during succeeding fiscal years.

ARTICLE X.

Dissolution

In the event of the dissolution of this Association, any unused monies shall be used to satisfy the obligations of the Association. Any remaining unused portions of assessments or other fees paid in by the members for the fiscal year during which such dissolution may be made shall be refunded to the members. Any remaining additional unused monies, to the total amount of any grants received by the Association from the Farm Security Administration, shall be paid to the United States of America.

ARTICLE XI.

Amendment

These By-Laws may be amended or repealed, or any By-Laws may be adopted by a vote of the majority of the members of this Association at any meeting called for that purpose.